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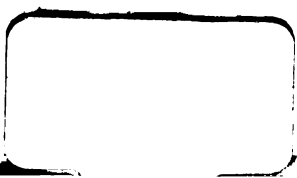
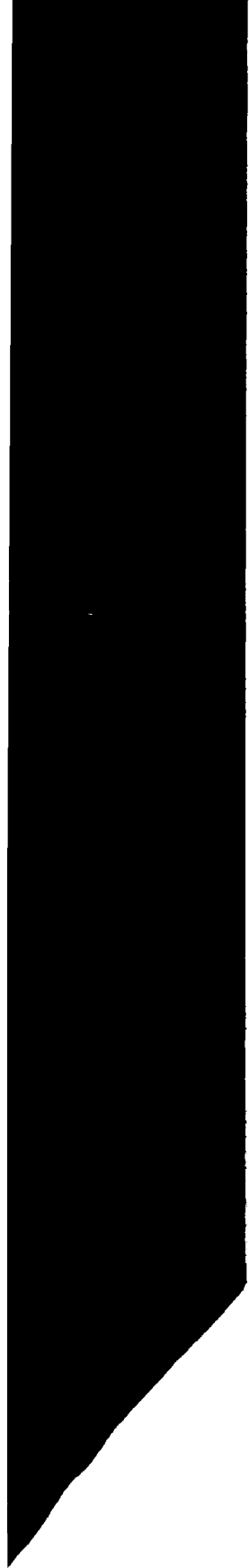
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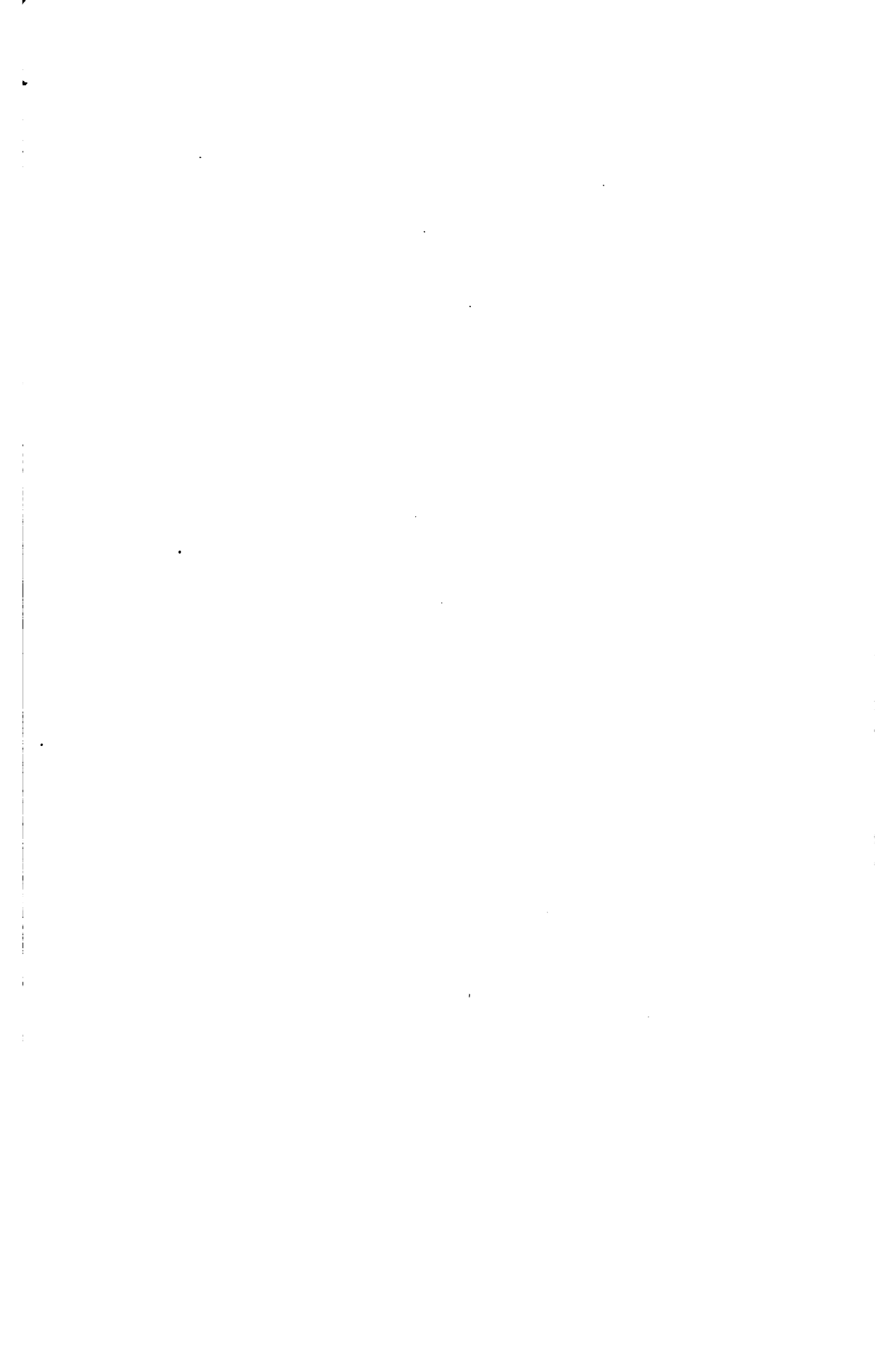












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## CONTENTS

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- NUMBER 1.**—Elements of the Kato Language, Pliny Earle Goddard, pages 1-176.
- NUMBER 2.**—Phonetic Elements of the Diegueño Language, A. L. Kroeber and J. P. Harrington, pages 177-188.
- NUMBER 3.**—Sarsi Texts, Pliny Earle Goddard, pages 179-277.
- NUMBER 4.**—Serian, Tequistlatecan, and Hokan, A. L. Kroeber, pages 279-290.
- NUMBER 5.**—Dichotomous Social Organization in South Central California, Edward Winslow Gifford, pages 291-296.
- NUMBER 6.**—The Delineation of the Day-Signs in the Aztec Manuscripts, T. T. Waterman, pages 297-398.
- NUMBER 7.**—The Mutsun Dialect of Costanoan Based on the Vocabulary of De La Cuesta, J. Alden Mason, pages 399-472.



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IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

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ELEMENTS OF THE KATO LANGUAGE

BY

PLINY EARLE GODDARD

CONTENTS

	PAGE
Introduction .....	3
Phonology .....	4
Individual Sounds .....	4
Vowels .....	4
Semi-Vowels .....	5
Continuants .....	5
Liquids .....	5
Nasals .....	6
Spirants .....	7
Stops .....	9
Labial .....	9
Dentals .....	9
Palatals .....	11
Velar .....	12
Glottal .....	12
Affricatives .....	13
Table of Sounds .....	13
Comparison of Kato and Hupa Sounds .....	14
Assimilation of Sounds .....	17
Modification of Syllables .....	17
Morphology .....	19
Nouns .....	19
Simple, Monosyllabic .....	19
With Possessive Prefixes .....	21
Parts of the Body .....	21
Clothing .....	23
Relatives .....	23
Nouns with Suffixes .....	23
Plural and Class Suffixes .....	24
Locative Suffixes .....	24
Suffix with Instrumental Meaning .....	26



	PAGE
Suffixes of Temporal-Modal Force .....	26
Suffixes of Size, Shape, and Color .....	26
Nouns compounded with Nouns .....	27
First Noun qualifies the Second .....	27
With Possessive Prefix for Second Component .....	27
With Second Component modifying the First .....	27
Nouns compounded with Adjectives .....	28
Nouns compounded with Verbs .....	29
Adjectives and Verbs used as Nouns .....	29
Verbs with Instrumental Prefix used as Nouns .....	31
Polysyllabic Nouns Unanalyzed .....	31
Pronouns .....	32
Personal .....	32
Personal Demonstratives .....	33
Demonstratives .....	34
Interrogative and Indefinite Pronouns .....	34
Adjectives .....	35
Pronominal Adjectives .....	35
Numerals .....	36
Cardinals .....	36
Multiplicatives .....	36
Distributives .....	36
Directional Words .....	37
Adverbs .....	38
Place .....	38
Time .....	38
Manner and Degree .....	39
Postpositions .....	39
Particles and Interjections .....	41
Verbs .....	42
Prefixes .....	42
First Position .....	42
Adverbial .....	43
Deictic .....	49
Objective .....	51
First Modal .....	52
Second Modal .....	53
Subjective .....	55
Third Modals .....	57
Stems .....	59
Suffixes .....	80
Source of Information .....	80
Modal .....	81
Temporal .....	83
Tenses and Modes .....	84
Table of Analyzed Verbs .....	85
Interpretation of Tracings .....	86
Explanation of Plates .....	88

## INTRODUCTION

In general structure all the Athapascan languages have great uniformity. The nouns, when not monosyllabic, are built upon monosyllables by suffixes, or are sentence verbs used as substantives. The verbs have adverbial prefixes expressing spatial relations, subjective and objective prefixes expressing syntactical relations, stems which often indicate the character and number of the subject or object, and suffixes with temporal, modal, and conjunctive force.

This general structure has been rather fully discussed in the treatment of the Hupa dialect.<sup>1</sup> As has been said in another place,<sup>2</sup> the Kato dialect differs from Hupa sufficiently to make them mutually unintelligible. While this is due chiefly to phonetic changes, in a lesser degree it is due to differences in vocabulary, particularly nouns of descriptive meaning. The suffixes of the verbs also differ considerably. The elements which compose the words of each dialect are nearly all identical except for the phonetic changes which exist.

It has been thought sufficient, considering the treatment already given the Hupa language, to provide descriptions of the individual sounds occurring in Kato, illustrated as fully as possible with tracings; and to list the morphological elements, accompanying each with a few examples. This has been done with the expectation that the chief use made of the work would be comparative.

The material employed is chiefly that contained in Kato Texts,<sup>3</sup> to the pages and lines of which the numerals after the examples refer. The tracings<sup>4</sup> used were selected from about one thousand made in the spring and fall of 1908 by Bill Ray, from whom the texts also were obtained.

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<sup>1</sup> Univ. Calif. Publ. Am. Arch. Ethn., III, 1905. Bureau of American Ethnology Bulletin 40, 87-158, 1910.

<sup>2</sup> Univ. Calif. Publ. Am. Arch. Ethn., v, 56, 1909.

<sup>3</sup> Univ. Calif. Publ. Am. Arch. Ethn., v, 65-238, 1909.

<sup>4</sup> For a description of the apparatus and methods consult Amer. Anthrop., n.s. VII, 613-619; and v, 1-4, of this series.

## PHONOLOGY

### INDIVIDUAL SOUNDS

#### VOWELS

The vowels occurring in Kato are a, ɤ, e, ɛ, ē, i, ī, ō, ū, and ū̄. Of these, ɤ, ɛ, are evident modifications of a and e; and i is not at all common.

a in quality is the wide-mid-back in English *father*. It has a very uniform length of .17 seconds.

ɤ is narrow-mid-back much like the vowel in English *what*. It occurs only in closed syllables, the same morphological element when rendered open having unmodified a, e.g., -kwaŋ, -kwaŋa. The converse, however, is not true that a becomes ɤ in closed syllables. The stem of verbs often has ɤ in the present and a in the past: te'n nōL t'as, "cut them"; te'n ne sīL t'ats, "I cut it up." It is probable that the stem is more strongly stressed in the latter case. The duration is usually less than that of a, being about .11 seconds.

e is open in quality as in English *net*. It is of frequent occurrence and stable in its character. In a few cases only does it become narrowed to ɛ as in English *err*. Its duration is very uniform, being about .17 seconds. In less stressed syllables it is morphologically equivalent to Hupa e of the same quality.

i always has the closed, continental sound as in English *pique*. When stressed it is the morphological equivalent of Hupa e.

ī, the open sound in English *in*, is but rarely heard. It is extremely short in duration and is detected with some difficulty. It has been uniformly written in te'in, "he said." That it was as uniformly uttered is not certain.

ō with the close quality in English *note* is of frequent occurrence, and is fairly constant in its character, with a duration of .17 seconds. It has frequently been written in place of ū as a possessive prefix, when its duration is only about .1 second.

ū has the sound of u in English *but*. It is always short in duration, about .067 seconds. It corresponds in its use in

morphological elements with *i* in Hupa; Kato *lû̄t*, Hupa *lit*, "smoke."

*ũ*, close in quality as in *rule*, occurs as a possessive prefix where one might suspect its origin to be connected with *yō* and *yī*, the demonstrative. That it is not a vowel originally independent of *ō* seems probable. The closeness of quality may be due to neighboring semi-vowels. Even in this prefix it is often heard as *ō*. Its duration is usually short, about .1 second.

#### SEMI-VOWELS

*y* initially seems to begin as a surd and to pass very quickly into a sonant glide. It adds very little if any duration to syllables. When final it is written *i* and seems in some cases to have belonged to a separate syllable.

*w* seems to have developed in most instances from completely sonant *g* under the influence of back vowels. In a few morphological elements *w* does appear without such influences, but in certain Athapaskan dialects *g* appears even in these. When the *w*-like glide after *k* is not followed by a vowel it is surd and written *w*.

#### CONTINUANTS

##### *Liquids*

The only sonant liquid is the lateral one, *l*. Initially in the word and after a surd spirant the first half of the *l* is surd and the latter half sonant. The first portion of the tracings (pl. 1, figs. 1, 2) shows the effect of a single flap of the tongue followed by a distinct rise of the tracing point, probably due to a greater opening of the passage. In form, the tracing resembles that for the surd spirant *L* (pl. 1, fig. 9) but is much smaller.

Between vowels (pl. 1, fig. 4; pl. 3, fig. 3; pl. 7, fig. 9) and final in the syllable (pl. 1, figs. 3, 5; pl. 9, figs. 1, 7) the sonancy is uninterrupted. When *l* is followed by a glottal stop the sonancy and apparently the duration of the sound itself are much shortened. The sound under this condition makes but little impression upon the English ear, and it is often heard as a surd. The tracings in plate 1, figures 7-9, do show a degree of

sonancy. These interrupted sonants seem to be the representatives of Hupa final L.<sup>5</sup>

The duration of l is about .18 seconds.

### *Nasals*

m.—The bilabial nasal seems to occur only where b has been assimilated to a dental or palatal nasal. Examples of such assimilation are plainly seen in cases where the initial sound of a verb-stem is b. Whenever it is preceded by n or ñ, b becomes m and usually the preceding nasal becomes m (pl. 6, figs. 6, 8). The postposition bī<sup>6</sup> when it follows a nasal becomes mī<sup>6</sup> (pl. 4, fig. 9). There is one word with an initial m which is unexplained, main, "weasel" (pl. 6, fig. 5). The duration of this sound is about .1 second.

In common with several Athapascan dialects, Kato has b, apparently preserved, where Hupa and other dialects have m. Perhaps the change toward m began with these words where assimilation took place and afterwards was carried through the language by analogy.

Syllabic n.—In many words in Kato n stands by itself in a syllable (pl. 4, figs. 2, 3), particularly when it is the first modal prefix of verbs and adjectives, and the second personal possessive prefix before a consonant. Under these circumstances Hupa has a vowel i preceding the n. Such a vowel was imagined to exist in Kato and was at first written. This n, unlike the consonant, has no sound accompanying the release. Its duration is about .12 second.

n.—The dental consonantal n when initial usually has the sonancy beginning about .05 seconds before the release of the tongue (pl. 1, fig. 8; pl. 2, fig. 3; pl. 3, figs. 5, 6). In some instances the sonancy seems to follow the release in about .01 second (pl. 4, fig. 7), in this respect agreeing with g and d when initial.

When n occurs within a word it is sonant throughout (pl. 4, figs. 6, 7). Its duration is about .1 second.

The final nasal seems usually to be palatal rather than dental,

---

<sup>5</sup> Present series, v, pl. 6, fig. 9.

but it becomes dental when another syllable beginning with a vowel is suffixed. In that case the *n* is often heard doubled as the final and initial sounds of the adjoining syllables. This is revealed in the tracings of plate 3, figure 1 of which shows a more complete closure of the mouth passage for the second *n*. Figure 6 of the same plate shows a decided increase in the amplitude of the vibrations of the nasal tracing, apparently due to the lower pitch of the final syllable, which happens to be favored by the tambour in use.

ñ.—The palatal nasal seems to be characterized by an incomplete closure of the mouth passage, or by its closure sometime after the lowering of the velum. This results in a nasalized sonant, palatal spirant, or a nasalized vowel, according to the degree of elevation of the back of the tongue, but since the earlier part of the vowel and the latter part of nasal are pure, the mixed character is not particularly noticeable to the ear. Final *g* also has a similar incompleteness of contact.

Often the palatal *ñ* is followed by a glottal stop (pl. 3, figs. 3-5). The sound is somewhat obscured in that case and at first the glottal stop was supposed to precede the nasal. None of the tracings reveal such an order. The glottis seems to open and the velum to fall at the same instant, causing a simultaneous raising of both tracing points. Kato seems to differ from Hupa as to the order of the glottal stop and nasal, as appears from plate 5 of volume 5 in this series.

### *Spirants*

The spirants of Kato are four in number, *s*, *c*, *l*, and *h*, all of them normally voiceless. In a few instances the initial portion is voiced at a low pitch, probably due to the gradual separation of the vocal chords. This low-pitched voicing of the initial portion impressed the hearer, in some cases, rather than the middle and last surd portion, and the sound was accordingly recorded as a sonant. In a number of cases intervocalic *h* appears with low pitch vibrations of great amplitude continuing throughout its duration. If it be true that the glottal spirant is caused by the friction of the air current as it passes the true

vocal chords, there may well be degrees of their retraction and relaxation.

s.—When initial, the tracing of s is usually a regular parabolic curve (pl. 5, fig. 1; pl. 6, fig. 7), showing a duration for the sound of about .22 second. In an intervocalic position (pl. 1, fig. 7) it may appear as a straight line or as an upward curve according to the elevation of the adjoining vowel tracing. Final in the syllable, which is a frequent position because of its occurrence as a suffix, it usually appears as a regular descending parabolic curve (pl. 3, figs. 5, 6; pl. 5, fig. 2; pl. 8, figs. 2, 8; pl. 10, figs. 1, 4, 7) of from .16 to .25 of a second in length. When final in the word, s is sometimes quite prolonged (.33 second) and shows a depression followed by a regular elevation. The form of the curve is due to variation in breath pressure controlled in the last analysis by the size of the opening between the tongue and the palate, and possibly, though not probably, to increase in the lung pressure.

c.—When initial before a consonant c (sh) seems to be syllabic (pl. 5, fig. 4; pl. 11, fig. 5). It is distinguished from s with difficulty by ear and its tracings closely resemble those of that sound. In other situations in the syllable and word the remarks above concerning s apply to c. In Hupa the corresponding sound is hw (-w).<sup>6</sup>

l.—The position for this sound seems identical with that for l. The tracings of it (pl. 2, figs. 1, 2, 4; pl. 11, fig. 3) usually show evidence of a single flap or movement of the tongue and sometimes (pl. 42, fig. 12) the slighter movements which may represent the spirant character. In a few cases (pl. 10, fig. 2; pl. 8, fig. 1) the sonancy of the preceding vowel continues into the l, but in all other respects it is surd. The sound is of the same character as that found in Hupa.<sup>7</sup> The average length is a little less than .2 of a second.

h, '.—Tracings of this sound in the initial, medial, and final (') positions are to be seen in plate 5, figures 7-9. In duration

<sup>6</sup> Work cited, v, 10.

<sup>7</sup> *Ibid.*, pl. 6, figs. 2, 4, 5, 6.

it is comparable to *s* and *c*. As has been remarked above, when medial it often has low-pitched vocal chord vibrations.

g.—A sonant spirant in the postpalatal position occurs between vowels and finally. It has probably resulted from a stop, the closure being incomplete.

#### STOPS

Six positions and three kinds of stops may be distinguished in Kato. The positions are bilabial, dental, prepalatal, postpalatal, velar, and glottal. The dental and palatal ones occur as sonants or intermediates, aspirated surds, and surds accompanied by glottal action.

#### *Labial*

b.—In the bilabial position only one kind is found, which from its resemblance to the corresponding members of other series may be called a sonant. The sonancy, however, does not occur until after the separation of the lips (pl. 5, fig. 3); the impulse for their separation and for the approximation of the vocal chords seeming to be synchronous. In regard to the tracings it should be observed that the lips, being tightly confined within the speaking funnel, often compress the air and elevate the recording point during the closure, obscuring the effect of the release, a result quite different from that produced by the other stops.

When *b* is preceded by a nasal it is assimilated to *m*. It does not occur in the final position of the syllable.

Its duration averages about .18 seconds.

#### *Dentals*

d.—The sonancy of *d* occurs about .04 seconds after the withdrawal of the tip of the tongue from the sockets of the teeth. Perhaps that interval is required for the adjustment of the chords after the nervous impulse is received (pl. 7, fig. 1). It will be observed that laryngeal adjustment of some sort is synchronous with the initial adjustment of the tongue marked by the first vertical lines in figures 1, 2, 3 of plate 7. Since only the latter third of the sound is sonant, and since its strength of enunciation does not differ from the surd so much as is usual in European



languages, it is heard by many as a surd. The sound is not found in the final position of the syllable, nor could it be expected since in that situation the sonant portion, the end glide, is wanting.

t.—In the sound represented by t, the final glide is surd breath resulting in an aspiration perhaps a little stronger than in accented English syllables (pl. 7, figs. 4-6). In several cases t by itself composes a syllable (pl. 6, fig. 3; pl. 7, fig. 2). In similar situations Hupa has d if the sound be initial, and t if it be final, with a weak vowel if necessary. Where t and d occur in the same word t appears as a higher tracing, indicating its somewhat stronger character. In duration the closure is about .1 second and the glide about as long.

t'.—The third member of the dental series is one of those peculiar American sounds often called fortes or exploded. The upper larynx line (pl. 7, figs. 7-9) shows a rather marked depression beginning as the tongue reaches the position of closure, culminating an instant after its release, and gradually returning during the glide, the latter portion of which is sonant. In figure 9 both t' and t occur, with a definite depression for t' but none for t, although it is nearly twice as high in the lower breath tracing. The initial sound also has the depression for tc', of the same character as the sound under discussion.

It will be noticed that the recording point does not ascend so high as for d even, and immediately returns to the line marked by the preceding closure or even below it. It seems probable that the larynx tracing records a bodily movement of that organ which normally occurs when the glottis is closed by the depression of the epiglottis. The glottal stop (pl. 7, fig. 7) has a similar depression.

It seems that while the tongue is against the teeth closing the passage through the mouth the velum is raised, closing the nasal passages, and the glottis is closed by the epiglottis. The mouth and throat form at that time a closed chamber filled with compressed air which escapes as the tongue is withdrawn, causing the moderate elevation of the tracing point. Immediately after the release of the tongue, while the glottis is at least partly closed, some movement, perhaps the lowering again of the larynx, causes

a degree of suction. These sounds have a characteristic harsh effect on the ear. Examples of this sound in the final position may perhaps be seen in plate 11, figures 5 and 6. In the lower, breath, line of the latter the tongue release may be seen about 4 mm. after the last vertical line and a second one, probably the glottal release, 10 mm. after the first one. That the laryngeal movement is synchronous with, not posterior to, the dental stop, appears from the depression in the larynx line of figure 5 of this plate.

### *Palatals*

The palatal stops seem mostly to be in the postpalatal position, the prepalatal stops apparently having become affricatives. In many cases it is rather difficult to be sure whether *tc* is uttered or a prepalatal *k* with, perhaps, a glide. There are three sorts of the postpalatal stops of the same general character as those of the dental series, and in addition considerable variation in the sonant depending upon the position in the syllable.

*g*.—Initially the sonancy of *g* begins, as in *d*, about .02 seconds after the release of the tongue (pl. 8, fig. 1). Between vowels, and in some cases even between vowel and consonant, the sonancy is continuous, and the contact slight and of short duration (pl. 8, figs. 2, 3). If an *ō* or *ū* follows, it is often heard as *w*. In *Hupa*, in both the initial and medial positions, *w* occurs in all vowel settings. Finally in a word and before a surd spirant the contact is incomplete and a sonant continuant is heard (pl. 8, fig. 9) written *g*.<sup>7a</sup>

*k*.—The aspiration of the palatal surd is more noticeable than in the case of the corresponding dental. The duration of this aspiration, between the release of the tongue and the beginning of the vowel, averages .08 seconds (pl. 9, figs. 1-3). In numbers of cases this consonant is syllabic, representing the pronoun of the third person either as a possessive prefixed to a noun or the object prefixed to the verb. In this case and in some others the aspiration sounds as a surd *w*. A sound of this *kw* sort occurs finally and between a vowel and consonant (pl. 11, fig. 1). It is

<sup>7a</sup> It now seems certain that two *g*'s have been confused: one, not very frequent, is intermediate; the other is fully sonant, corresponding to *w* in *Hupa*.

quite probable that the w-tinge is imparted by the remains of an  $\delta$  or  $\bar{u}$  vowel. It appears that the ordinary aspirated  $k$  when final usually loses its third or aspirated portion and resembles an unaspirated  $k$ . Hupa has a surd palatal continuant ( $x$ ) as the corresponding sound in all situations.

$k'$ .—The third member of the series is of the same character as  $t'$ . Its tracings show the same depression in the larynx line and a similar reduction in the height attained by the breath tracing with the following retraction. It has a harsh, cracking sound, still more noticeable than that of  $t'$ . A  $k$  of this sort followed by  $w$  is also found (pl. 9, fig. 9). When final it is rather hard to be sure which  $k$  should be written, but it almost certainly occurs in plate 11, figure 8, and perhaps in many other words. It corresponds to the only  $k$  of Hupa, in which language the palatal sonants seem to have become  $w$ , and the aspirated surd palatal stops the surd palatal spirant  $x$ .

#### *Velar*

$q$ .—A few words have a sound clearly different from the palatal sounds discussed above. This difference seems to be one of position. The sound appears to be a velar, unaspirated and intermediate as to sonancy (pl. 8, figs. 7, 8).

#### *Glottal*

That the glottal stop ( $ʔ$ ) occurs in the initial position in a word is not certain. It is initial in the verbal stems  $-ʔa$ ,  $-ʔai$ , and  $-ʔan$ , but these stems of course are never the first syllable of words. When intervocalic (pl. 11, fig. 9) the stop is usually heard as a short pause between the two sounds, and is likely to be overlooked as insignificant or not even noticed until attention is called to it. When it is final (pl. 1, figs. 2, 6) it is much more prominent, for in that situation its release is plainly heard as an aspiration. Its duration in this situation is much longer. Its presence may also be detected by its effect upon the vowel or consonant which it follows (pl. 11, fig. 3). It has the result of reducing the duration of a preceding sonant (vowel, liquid, or nasal) to be about one-half of the usual length.

## AFFRICATIVES

The classification of the affricatives (stops plus spirants) is rather difficult in Kato. A sonant dj occurs in a number of syllables (pl. 10, figs. 1, 4), but there is usually some question as to the sonancy and also the position; dj, g, tc, and ky at first having been written for the same sound. An unmistakable surd tc also occurs with aspiration which takes place through the sh (c) position (pl. 10, figs. 2, 5).

A surd with glottal accompaniment (tc') is frequent (pl. 10, figs. 3, 4, 6, 9); a deictic prefix of this sort being present in a large number of verbs. It is often syllabic.

It is rather doubtful if ts occurs in any large number of cases. The diminutive suffix, of very frequent use in Kato, often sounds as much like ts as it does like tc. This is probably due to the fact that the second part of the sound is formed in a position or in a manner between s and sh as heard in English.

L.—In some cases a lateral surd consonant of an l character seems to be accompanied by the same sort of glottal or epiglottal action which affects the surd stops and the affricative tc'. This is especially plain in the tracing plate 2, figure 7. The effect, as in the other sounds of this character, is to reduce the energy of the breath, as is uniformly shown by the height of the tracings, and at the same time to impart a harshness which is strikingly noticeable.

TABLE OF SOUNDS

	Stops			Continuants					Nasal	Liquid
	Intermediate or Sonant	Aspirated Surd	Glottally Affected Surd	Spirants	Sonant Affricative	Surd Affricative	Glottally Affected Affricative			
Bilabial	b								m < b	
Apical-dental	d	t	t'	s		ts	ts', s'		n	
Median-prepalatal				c	dj	tc	ts'			
Lateral-prepalatal				L			L			l
Post-palatal	g	k	k'	g					ŋ	
Velar	q									
Glottal			ʔ	h, ʔ						

Semivowels: y, w.

*Vowels.*

		a	
		ə	
	e	ɛ	ō
i		ū	
ɪ			ü

## COMPARISON OF KATO AND HUPA SOUNDS

Kato a and ə correspond to Hupa a and ə (written ū).

Kato a', cloud; Hupa a, cloud.

Kato ya gūL gal, he threw up; Hupa ya wil waL, he threw through the air.

Kato e; Hupa e.

Kato t'ec, coal; Hupa, teūw, coal.

Kato tes del'; Hupa teit tes deL, they went.

Kato I; Hupa e.

Kato cī, I; Hupa, hwe, I.

Kato dō gīs iñ, one could not see; Hupa dō xō dū wes en, it could not be seen.

Kato ō; Hupa ō.

Kato Lō', grass; Hupa Lō, grass.

Kato nō tc'ūn tō', water reached; Hupa nō it tō, the water comes.

Kato ū; Hupa i.

Kato Lūt, smoke; Hupa Lit, smoke.

Kato nas ūts, he ran about; Hupa nas its ei, he ran about.

Kato gūl lūt, it burns; Hupa wil lit, it burns.

Kato y; Hupa y.

Kato ya', louse; Hupa ya, louse.

Kato ye nat ya, he went in; Hupa ye na wit yai, he went in.

Kato l; Hupa l.

Kato lət, seaweed; Hupa la, seaweed.

Kato te'ūs li', he caught in a noose; Hupa tais loi, he tied in bundles.

Kato te't te lōs, he led; Hupa na te lōs, she dragged back.

Kato L; Hupa L.

Kato Lōn, squirrel; Hupa Lōn, mouse.

Kato Ləl yits, he tied together; Hupa Le il loi, he tied together.

Kato te'e nan La, he jumped out; Hupa tee il Lat, he jumped out.

**Kato L; Hupa L.**

Kato ū Lōl, its straps; Hupa Lōl, strap.

Kato te'Loi ūfi gī, she is making a basket; Hupa ke it Lō, she used to make baskets.

**Kato syllabic n; Hupa n and i or other vowel.**

Kato n teel', your younger brother; Hupa nit tai, your paternal uncle.

Kato n das si, it is heavy; Hupa nit das, it is heavy.

**Kato n; Hupa n.**

Kato ne', land; Hupa nin, ground.

Kato na nūn yai, she started across; Hupa na nīf yai, he crossed.

**Kato ű; Hupa ű or n.\***

Kato ō te'ūfi', toward it; Hupa xō teifi, toward her.

Kato de t gūn'āfi, he put it in the fire; Hupa de dū wiā an, he put in incense.

**Kato s; Hupa s.**

Kato ū sūts, its skin; Hupa sits, skin, bark.

Kato dō kw ne sūfi, I was insensible; Hupa ai ne sen, I thought.

**Kato c; Hupa hw.**

Kato ca, moon; Hupa hwa, moon.

Kato nec in tō le, let me look; Hupa nūw ifi, let me look.

Kato nī cūfi', black; Hupa Lū hwin, black.

**Kato b; Hupa m.**

Kato būfi k'ūt, lake; Hupa mūfi, lake.

Kato bes ya hū, he climbed up when; Hupa me is La dei, he ran up.

Kato na'be, swim (pln. imp.); Hupa nauw me, let me swim.

**Kato d; Hupa d.\***

Kato ū da', his mouth; Hupa xōt da, his mouth.

Kato da nō la, she put it up; Hupa da na willai, she put it.

Kato bē dūl, let us climb; Hupa wei dūl, we will go.

**Kato dj; Hupa dj.**

Kato dje', pitch; Hupa dje, pitch.

Kato dje' gūl teel, he split open; Hupa dje wil kil, he tore open.

**Kato t, Hupa t.**

Kato tō, water; Hupa tō, ocean.

Kato te'te' gūn tal', he stepped in water; Hupa te nō dū win tal, he stepped in water.

\* It is not certain that this is a phonetic change. The occurrence of n and ű in Hupa stems regularly marking temporal-modal changes may have been extended by analogy.

\* When a prefix such as follows de-, in fire, stands alone, it becomes t in Kato, e.g., de t gūfi 'an (Hupa de dū win an), he put on the fire; but otherwise it is d also in Kato, as in de dūn 'aq, put on the fire.

Kato t'; Hupa t.<sup>10</sup>

Kato t'e', blanket; Hupa te, blanket.

Kato ta gút t'ats, he butchered; Hupa kit te tats, he cut them.

## Kato tc; Hupa tc.

Kato L teúe, dust; Hupa Lit teúw, sand.

Kato wa nún tci háfi, it will blow through; Hupa da kyú wes tee, the wind blew.

## Kato tc; Hupa tew.

Kato c teō, my grandmother; Hupa mitc tewō, its grandmother.

Kato ūL tci, make it; Hupa il tewe, make it.

Kato te'ún gún tee ge, he cried; Hupa teū win tewū, he cried.

## Kato tc; Hupa k (prepalatal).

Kato teún, tree; Hupa kin, tree.

Kato n teel', your brother; Hupa mik kil, her brother.

Kato gúl teút, he caught them; tee xōL kit, he caught him.

Kato te'; Hupa te, ky.<sup>11</sup>

Kato te' nes tifi, he lay down; Hupa tein nes ten, he lay down.

Kato te' gún yan', he ate of it; kyū win yan, he ate it.

## Kato g; Hupa w.

Kato gún gel', it was evening; Hupa wil weL, dark, night.

Kato sel gin, he killed; Hupa tee sel wen, he killed.

## Kato k; Hupa x.

Kato kai hit', winter time; Hupa xai, winter.

Kato ka ya ei', they dug; Hupa xa ke hwe, she commenced to dig.

Kato wa'úfi kan, she gave him; Hupa xō wa teifi xan, she gave her.

## Kato kw; Hupa x.

Kato kwófi', fire; Hupa xofi, fire.

Kato kw na', his eyes; Hupa xon na, his eyes.

Kato kwa'la, you did; Hupa xa ūl le, do that.

## Kato k'; Hupa k. (The same sound.)

Kato k'at de', soon; Hupa kút de, soon.

Kato k'e te'ús t'ats, he cut; Hupa kit te tats, he cut them.

Kato nún ūn dúk k'e', get up (imp. sing.); Hupa in na is dúk ka, she got up.

## Kato k'w; Hupa k.

Kato k'wát', on; Hupa kút, on.

## Kato q; Hupa q.

Kato qō, worm; Hupa qō, worm.

Kato ūfi qōt, spear it; Hupa ya a qōt, they always stuck them.

<sup>10</sup> Hupa t is but an earlier orthography for t' used in Kato.<sup>11</sup> In Hupa te with glottal accompaniment was not differentiated from the few occurrences of simple tc.

## ASSIMILATION OF SOUNDS

The instances of assimilation noticed are the following:

b following n or ñ becomes m:

kwōñ' mī' (for kwōñ' bī'), fire in. 119-13.<sup>12</sup>

kwōñ' mūñ a (for kwōñ' būñ a), fire before. 119-16.

tām mie (for tām bīe), swim. 118-16.

t final in verbal stems followed by b or k is assimilated:

ûl teq̄ kwan (for ûl teq̄t kwan), you shouted. 164-17.

na sôl Lûk kwāñ (for na sôl Lût kwāñ), you have burned? 174-4.

û na nûn Lûb būñ (for û na nûn Lût būñ), around you must burn. 104-10.

nôl kûb būñ (for nôl kût būñ), will float ashore. 85-10.

t' of k'wût', on, becomes n before words beginning with n:

k'wûn na gai, on it he walked. 78-1.

k'wûn nôl tiñ, she put it on. 181-3.

g preceded by ñ becomes ñ or disappears:

na hûñ ət (for na hûñ gət), you untie. 123-7.

te'ẽñ a nī (for te'ẽñ ga nī), killed. 157-5.

te'n nûñ iñ (for te'n nûñ giñ), he brought. 135-11.

## MODIFICATION OF SYLLABLES

It is well known that syllables of greater importance of meaning are rendered more emphatic by methods which are characteristic of the languages in which they occur. English, in common with other languages of Germanic origin, has a strong stress accent. Ancient Greek and certain modern Slavic languages have a variation in pitch. Variations of stress are undoubtedly due to changes in the pressure exerted by the lungs upon the air column and are brought about by an unusual incitation of muscles controlling breathing. The increase of pitch, in like manner, is due to an extra forcible incitation and contraction of certain muscles of the larynx.

It seems that in Kato and other Athapascan dialects there are similar grades in the force exerted by the muscles in closing and adjusting the mouth passage. It was formerly held that these were secondary effects of stress accent, although such accent is

<sup>12</sup> The references are to the pages and lines of the author's *Kato Texts*, Univ. Calif. Publ. Am. Arch. Ethn., v., 65-238, 1909.



nearly absent at the present time. It seems more reasonable to look upon these differences of enunciation as coördinate with, if not independent of, stress and pitch.

Such differences in muscular tension of the walls of the mouth, and of the tongue should alter the resonance of the buccal cavity, and the quality of the vowels, render stops and affricatives simple spirants, and cause final consonants to disappear.

The following diphthongs lose their final component :

- <sup>h</sup>ai becomes -<sup>h</sup>a, stem, to have, position.
- yai becomes -ya, stem, to go.

The quality of the vowels changes in the following :

- ta- becomes tāt-, prefix, relating to water.
- ka- becomes kāl-, prefix, up.
- ye- becomes yī-, prefix, in.
- del<sup>h</sup>- becomes -dūl-, stem, go.
- sīl<sup>h</sup> becomes -sūl-, stem, to strike.
- kō- becomes kwūt-, prefix, down.

The sonant l becomes a surd spirant L :

- dūl becomes -dūL-, stem, of swimming fish.
- kal becomes -kaL-, stem, to break.
- qal becomes -qaL-, stem, to walk.

Affricatives become spirants :

- yats becomes -yas, stem, to snow.
- yite becomes -yic, stem, to rest.
- gets becomes -gūc, stem, to look.
- k'ats becomes -k'as, stem, of long object.

Final stops disappear :

- lat becomes -la, stem, to jump.
- yōt becomes -yō, stem, to chase.
- yeg becomes -ye<sup>h</sup>, stem, to drive deer.
- lag becomes -la<sup>h</sup>, stem, to do.
- k'ag becomes -k'a<sup>h</sup>, stem, to be fat.

Not only is the duration of the entire syllable lessened in these instances in which a diphthong becomes a simple vowel, an affricative a simple spirant, and a final stop disappears, but vowels in the weaker forms are shorter.

Stress and pitch seem to vary but slightly except that at the conclusion of a sentence or any part of it spoken separately the voice falls much as in English.

## MORPHOLOGY

## NOUNS

The nouns of Kato are of the same sort and fall into the same classes as Hupa nouns already fully discussed.<sup>13</sup> In the first class, monosyllables without evidence of formative elements, there have been found sixty-eight. Of such Hupa nouns forty-eight have been listed.<sup>14</sup> Of these Kato nouns sixteen are believed not to exist in Hupa either as simple words or elements of words, while seven of the Hupa monosyllables are not known in Kato. The Hupa have descriptive names in the place of these Kato nouns, the apparently original ones. In several instances the change appears to be recent. The ordinary Hupa word for water is *tanan*, what one drinks, but *tō* is still employed in compounds. Nouns similar to these Kato words are generally in use throughout the territory intervening between Hupa and Kato territory and are to be considered Athapascan nouns that have disappeared in Hupa.

## SIMPLE, MONOSYLLABIC

The following nouns seem to have no formative elements.

- a'*, cloud. 74-6. (Pl. 12, fig. 1.)
- əl*, firewood. 137-16.
- ya'*, sky. 77-13. (Pl. 12, fig. 2.)
- ya'*, head louse. 152-5. (Pl. 12, fig. 3.)
- yas*, snow. 74-3. (Pl. 12, fig. 4.)
- ye*, house. 97-6. (Pl. 15, figs. 13, 14.)
- yō'*, scoter. 122-6. (Pl. 5, fig. 9.)
- yō'*, bead. 145-7.
- wōs*, leg. 79-10. (Pl. 5, fig. 3; pl. 12, fig. 5.)
- lāt*, seaweed. 84-12.
- lō* (*lōō*), frost. 74-3.
- lets*, clay. 80-1.
- lōn*, rodent, squirrel. 96-9. (Pl. 2, fig. 1; pl. 20, fig. 2.)
- lōk'*, steel-head salmon. 84-5. (Pl. 12, fig. 6.)
- lāt*, smoke. 141-2. (Pl. 12, fig. 7.)
- Le'*, night. 81-4.
- Lō'*, herb, grass. 71-3. (Pl. 2, fig. 8; pl. 12, fig. 8.)
- main*, weasel. 74-2. (Pl. 6, fig. 5.)

<sup>13</sup> Present series, III, 13-29, 1905; Bur. Am. Ethn. Bull. 40, 106-110, 1910.

<sup>14</sup> *Ibid.*, III, 13.

- ne', land, earth. 71-1; 74-9. (Pl. 20, fig. 9.)  
 sai, sand. 85-9.  
 se, stone. 71-3. (Pl. 5, fig. 1.)  
 sis, otter. 73-4.  
 slûs, ground squirrel. 73-7. (Pl. 12, fig. 10.)  
 sk'e', mush. 110-8.  
 sa, sun. 74-9. (Pl. 12, fig. 11.)  
 eek', spittle. 154-14. (Pl. 12, fig. 12.)  
 cic, ochre. 80-4. (Pl. 15, fig. 12.)  
 cle', orioles. 72-13.  
 bañ, doe, female. 165-9, 182-2.  
 bel, rope. 101-7. (Pl. 12, fig. 13.)  
 bûs, slide. 86-11. (Pl. 12, fig. 14.)  
 bût', stomach. 110-1.  
 dañ, pile. 133-10; 181-6.  
 deL, whooping crane (?). 73-14.  
 djañ, mud. 155-6.  
 dje', pitch. 137-13.  
 djif, day. 82-8.  
 tû, water. 71-1. (Pl. 7, fig. 4; pl. 12, fig. 15.)  
 tûts, cane. 174-7.  
 ts'al, basket cradle. 113-12.  
 ts'i', brush. 76-7.  
 ts'ûñ, bone. 110-1.  
 tcûn, tree. 71-3.  
 tc'añ, food. 85-5.  
 tc'ek, woman. 83-15.  
 tc'i, boat. 127-10.  
 tc'o', black-bird. 72-15.  
 te'ûñ, noise. 107-8.  
 t'a', feather. 105-14. (Pl. 7, fig. 7.)  
 t'e', blanket. 110-5.  
 t'ee (t'ee), coal. 143-7; 147-9.  
 ges, black salmon. 84-3. (Pl. 12, fig. 16.)  
 gac, yew.  
 ka', goose. 73-14.  
 ka', a feather headdress. 176-17.  
 kai, winter.  
 kûs, cough. (Pl. 12, fig. 17.)  
 kwe', track. 108-13.  
 kwûñ', fire. 81-3. (Pl. 4, fig. 5.)  
 kwôt, stream, creek. 90-15.  
 kwôc, whitethorn (a shrub). 166-3.  
 k'a', arrow. 110-10.  
 k'ai', hazelnuts. 94-5.  
 k'ûñ', junberry. 133-3. (Pl. 4, fig. 8; pl. 11, fig. 2.)  
 k'ûñ', hazel. 133-10. (Pl. 12, fig. 20.)  
 k'ûc, alder. (Pl. 12, fig. 18.)  
 k'wa', fat. 83-15. (Pl. 12, fig. 19.)  
 qû, worms. (Pl. 8, fig. 7.)

## WITH POSSESSIVE PREFIXES

Nouns capable of intimate possession, such as parts of the body, and terms of relationship, seldom or never occur without a possessive prefix. These prefixes are:

a-, reflexive.

a t'a, her own blanket fold. 181-9. (Pl. 7, fig. 8; pl. 13, fig. 1.)

c- or s-, first person singular.

c dji', my heart. (Pl. 13, fig. 14.)

n-, second person singular.

nat, your sister. 132-4. (Pl. 13, fig. 10.)

nō', first person plural.

nō'si', our heads. 129-10. (Pl. 5, fig. 8.)

nō', second person plural.

nō'si', your heads. 172-15.

nō'nān, your mother. 135-2.

n h-, second person plural.

n hūnte, your (pl.) noses. 97-9.

b- or bi-, third person of singular or plural definitely mentioned or understood persons or things (pl. 14, fig. 3).

būnte, his nose. 80-7.

bi ne', its (feather's) back. 127-5.

ū- or ō-, third person singular or plural of persons, animals, or objects (pl. 13, figs. 2-9).

ū na', her eye. 152-10. (Pl. 13, fig. 5.)

ū tea', her apron. 165-8. (Pl. 13, fig. 3.)

kw-, third person singular or plural of persons or things referred to indefinitely.

kw da', his mouth. 123-2. (Pl. 14, fig. 7.)

kūc-, third person plural.

kūc na tag ha', without their knowledge. 155-8.

tc', third person of detached, unassociated members.

tc'si', head. 128-5.

*Parts of the Body*<sup>15</sup>

-ūnte, nose. 80-7; 98-2.

-we cī, eggs. 111-9.

<sup>15</sup> III, 14-16.

- wō°, tooth. 181-8. (Pl. 4, fig. 2; pl. 14, fig. 4.)
- wōs, leg. 151-18. (Pl. 5, fig. 3.)
- la°, hand. 154-1; 164-1.
- lai°, penis. 80-8.
- La, butt. 93-10.
- na°, eye. 180-7. (Pl. 13, fig. 5.)
- ne°, back, back-bone. 133-3.
- ne°, lower leg. (Pl. 13, fig. 12.)
- sa ye, its shell. 131-9.
- sa ke°, spleen. 133-4.
- si°, head. 76-1. (Pl. 5, fig. 8.)
- si° da°, crown of head. 79-4. (Pl. 14, fig. 12.)
- sō°, tongue. 110-3. (Pl. 13, fig. 4.)
- sō se°, sting. 156-1.
- sūfi°, meat. 134-14.
- sūn ta°, forehead. 132-15.
- sūts, skin. 110-4. (Pl. 13, fig. 7.)
- ale°, anus. 143-13.
- būt°, stomach. 148-6. (Pl. 11, fig. 5.)
- da°, mouth. 122-13. (Pl. 14, fig. 7.)
- da°, voices. 106-14.
- da° ga°, beard.
- de°, horn. 74-10. (Pl. 13, fig. 9.)
- des ke°, lungs. 180-12.
- di ce°, shoulder. 75-1.
- dji°, heart. 125-17. (Pl. 13, fig. 14.)
- dji k'e°, intestines. 113-3.
- te le°, liver. 180-12.
- t'a, tail. 86-4.
- t'ai, neck. 153-11.
- ts'e k'e, navel. 132-10.
- ts'in ne, leg. 107-12.
- ts'ō°, milk. (Pl. 13, fig. 6.)
- tc'a ni, faeces. 142-7.
- tcī°, tail. 163-1. (Pl. 14, fig. 5.)
- tcī°, mind. 101-14.
- tcī°, heart. 101-5. (Pl. 5, fig. 4.)
- dji cīc te°, lungs. 80-2.
- teō djiL, kidney. 80-2. (Pl. 14, fig. 11.)
- teōk, testicles. 80-9.
- tc'ge°, ear. 110-2.
- ga°, hair. 143-8.
- ge°, marrow. 110-2.
- ki°, butt.
- kwa ne, shoulder, arm. 102-15; 160-7.
- kwafi ke, ribs. 133-9.
- kwe°, foot. 96-14. (Pl. 14, fig. 8.)
- qōt°, knee. (Pl. 13, fig. 13.)

*Clothing*

- Löl, strap. 97-7.
- t'a, pocket, blanket fold. 181-9. (Pl. 13, fig. 1.)
- t'a ni, skirt. 165-6. (Pl. 13, fig. 2.)
- tea', apron. 165-8. (Pl. 13, fig. 3.)

*Relatives*

- at', sister. 132-4. (Pl. 13, fig. 10.)
- itc, daughter. 128-7.
- ûnt, -ûn dî, cousin. 139-4; 145-2; 146-3. (Pl. 14, figs. 1, 2.)
- yaets, young. 80-14; 182-4.
- ya teetc, daughter. 176-10.
- ye' dūñ, husband. 132-14.
- lō, dog. 101-6.
- nan, mother. 105-7.
- ta', father. 105-7.
- t'ē cī', sister. 144-4.
- teel', younger brother. 141-12.
- teai, grandchild. 97-16; 148-11. (Pl. 14, fig. 13.)
- teō, grandmother. 97-16. (Pl. 13, fig. 15.)
- teūñ ka nai, uncle. 172-3.
- te'gī, grandfather. 153-10. (Pl. 13, fig. 11.)
- ge dūñ, brother-in-law. 153-18.
- gūn dan, son-in-law. 128-7.
- ki, boy. 102-6. (Pl. 14, fig. 9.)
- kik, children. 105-2.

## NOUNS WITH SUFFIXES

Nouns as such never seem to be used with prefixes other than the possessive ones. They take, however, a large number and variety of suffixes. With the exception of those first listed, these suffixes have very definite meanings and most of them are traceable to other parts of speech. Those indicating size, shape, and color differ from adjectives only in the absence of the usual prefixes before the stem. The postpositions used with nouns are not different from those forming phrases with pronouns, but in a few cases the noun does not seem to exist without the suffix. These postpositions might easily become inflectional cases should they suffer obscuring phonetic changes or their use except as nominal suffixes cease.

*Plural and Class Suffixes*

-kī, -k, forming the plural of terms of relationship and classes of people.

te'yān, woman. te'yān kī, women. 110-15.

skī, boy. 116-16. skīk, boys, children. 132-8. (Pl. 14, figs. 9, 10.)

-teūñ, a suffix indicating one of a class, "that kind of a person."

te'yān teūñ, old woman. 152-3.

s teō teiñ, my grandmother. 147-5.

-ta, the plural of the last.

kāc kīts, old man. 108-2. kāc kīts ta, old men. 109-15.

-k'ūts, of uncertain meaning.

te'yān k'ūts, old women. 105-1.

-kī ya hūñ, a class suffix used particularly with place names. It is the usual termination of the people of a village as distinguished from the locality.

tō kī ya hūñ, water people. 175-1.

-gūñ, of uncertain meaning.

L tsō gūñ, foxes, "the ones that are blue" (?). 73-3. (Pl. 8, fig. 3.)

*Locative Suffixes*<sup>15a</sup>

-dūñ, at.

ye dūñ, house place. 113-15.

yī teō dūñ, dance house place. 145-6.

se ta'dūñ, rock creek. 107-16.

tō n cōn dūñ, water good place. 173-7.

-ta', among.

ye bī' ta', houses among. 171-17.

ne' k'wūt ta', countries. 157-6.

n cōn ta', good places. 173-6.

ca'na'ta', creeks, creeks in. 82-14; 93-11.

teūn ta', trees among. 171-9. (Pl. 15, fig. 6.)

ō ye ta', under places. 180-1.

-te'ūñ', toward.

tō te'ūñ', water toward. 176-6.

c nān te'ūñ', my mother toward. 120-11.

-bī', in.

ye bī', house in. 97-11.

ō da' bī', its mouth in. 128-15; 182-5.

<sup>15a</sup> See also the postpositions used with pronouns, p. 39.

wa te'a mī', hole in. 156-12. (Pl. 4, fig. 9.)  
 sak tō' bī', spring in. 115-10.  
 cie bī', red mountain, 102-15. (Pl. 15, fig. 12.)  
 ts'al bī', basket in. 115-10.  
 kwō' mī', fire in. 110-4.

-bī'k', inside.

ya'bī'k', sky in. 101-15. (Pl. 15, fig. 15.)  
 ye bī'k', house inside. 99-5. (Pl. 15, fig. 14.)  
 tō bī'k', water inside. 155-4.  
 ō la' bī'k', its hands in. 114-8.

-bī' ūñ', toward, in.

ya'bī' ūñ', sky in. 81-2; 99-10.  
 ye'bī' ūñ', house in. 110-15. (Pl. 15, fig. 13.)

-k'wūt', on.

ō tei' k'wūt', its tail on. 162-14. (Pl. 9, fig. 9; pl. 20, fig. 1.)  
 ū sī' da k'wūt', crown of its head on. 76-5.  
 ū de' k'wūt', its horn on. 76-3.  
 ne' k'wūt', land on. 92-2.  
 tō k'wūt', water on. 82-1.

-ū ye, -wī-ye, under.

ca ū ye hāñ, sun under. 75-4.  
 teñ wī ye, tree under. 97-3.

-tūk gūt, between.

ō na' tūk gūt, its eyes between. 76-2.  
 ye tūk gūt, house middle. 142-13. (Pl. 16, fig. 1.)

-l'ūt, middle (time or place).

ne' L'ūt, earth middle. 75-3; 104-11. (Pl. 16, fig. 4.)  
 cin L'ūt, summer middle. 121-14.  
 ta L'ūt, ocean middle. 126-8. (Pl. 16, fig. 7.)  
 kai L'ūt, winter middle. 113-14.

-būñ a, before, alongside of.

kwōñ mūñ a, fire before. 119-16.

-ne' ūñ', other side of, "its back towards."

tō ne' ūñ', water other side. 126-6. (Pl. 11, fig. 9.)

-ū nō', behind.

ne' ū nō', hill behind. 164-16. (Pl. 4, fig. 7.)  
 teñ nō', tree behind. 103-5.

-lai', on top, "summit, point."

ne' lai', earth top. 161-14.  
 ū laik', their tops. 132-15.  
 kw tei' lai'k', his tail end. 177-12.



*Suffix with Instrumental Meaning*

-bûL, with, by means of.

na gi bûL, quiver with. 176-16.

ts'al bûL, basket with. 148-2.

tca' bûL, dress with. 166-6.

k'a' bûL, arrows with. 166-7.

k'âm mûL, withes with. 167-1.

*Suffixes of Temporal-Modal Force*

-bûñ, for, will be (usually expresses purpose but sometimes predictions of the future only).

a' bûñ, cloud will be. 79-2.

a' bûñ, for clouds. 78-8.

ô te li' bûñ, its liver for. 109-6.

sak tō' bûñ, "spring will be." 88-4.

-wûñ, for.

te'a wûñ, food for. 123-3.

tō wûñ, water for. 118-4, 123-3.

-hîť, -hût, at time of.

ciñ hîť, summer time. 121-5.

ciñ hût, summer time. 155-1. (Pl. 16, fig. 6.)

djiñ hât, day time. 105-7.

kai hîť, winter-time. 121-11.

-ûť, at (perhaps a form of the last).

Le' ûť, night in. 136-1.

-ye, it is (simple affirmation).

ne' ye, country is. 120-14.

e nañ ye, my mother is. 120-11.

dō ū sññ' yī, it is not meat. 134-14.

dō L gñc ye, it is not rattlesnake. 177-4.

-ûñ gī, it is (affirmation with element of surprise).

ca ūñ gī, sun it is. 100-7.

-tē le, will be.

k'ai t bûL tē le, burden baskets will be. 140-12.

*Suffixes of Size, Shape, and Color*

-tcō, large, an augmentative suffix.

Lō' tcō, bunch grass. 94-7.

dñc tcō, grouse. 72-5.

gac tcō, redwood (gac, yew). 86-8. (Pl. 14, fig. 14.)

ges tcō, elk (ges, deer in other dialects). 71-5. (Pl. 14, fig. 15.)

-tc, -ts, small, a diminutive suffix also used to form terms of endearment. Cf. ū tc'ūnts, close by, from -tc'ūn<sup>c</sup>, by or near.

dūetc, quail. 72-5. (Pl. 14, fig. 16.)

yīetc, wolf. 71-6. (Pl. 15, fig. 1.)

c tcaite, my grandchild. 97-16. (Pl. 14, fig. 13.)

c lōts, my dog. 89-14.

-yac, young, small.

s kits yac, baby small. 113-12.

With both diminutives.

nō nī yacts, grizzly small. 92-5.

ca'na' yacts, creek little. 115-13.

Cf. c yacts, my little one. 182-4.

Cf. se ū yacts, stones small. 76-10. (With possessive prefix ū.)

-sōs, slender.

de' sōetc, spike back. 108-8.

-tel, -teL, wide, flat.

Lō' tel, flat fish (?)

Lō' teL, bear grass. 176-17.

ts'ūn tel, "bone-wide" turtles. 90-14. (Pl. 15, fig. 5.)

Cf. se n teLts, stone flat small. 133-3. (With adjective prefix.)

#### NOUNS COMPOUNDED WITH NOUNS<sup>16</sup>

##### *The First Noun qualifies the Second*

in tee' bañ, deer female. 144-2.

dūs t'e kō ne, madrone berries. 134-17.

tō a' būñ, "water cloud," for dew. 79-4.

tō sī' dūn, water-head-place. 87-6.

tō būt teō, water panther. 177-13. (Pl. 20, fig. 8.)

tcūn wō', "tree teeth," hook. 158-7.

tcūn sī' ts, "tree head small," pine cones. 115-13, 117-12.

tcūn sūts, "tree skin," bark. 137-14.

ges na', salmon eye. 121-12.

k'a' s'ūL tiñ', arrow-bow. 144-9.

##### *With Possessive Prefix for Second Component*

ne' ū tcī' dūñ, earth tail place. 86-9.

tc' kak' bī ne', net's back-bone. 119-18.

##### *With the Second Component modifying the First.*

Lōn tc' ge nes, "rodent-ears-long," a mouse. 73-10. (Pl. 2, fig. 1.)

tō nai wō' nes, "fish-teeth-long." 86-1.

<sup>16</sup> III, 19.

## NOUNS COMPOUNDED WITH ADJECTIVES

## -n tcag, large.

ne' n tcag, country large. 97-16.

tō nai n tcag, fish big. 85-11.

wō' n tca', teeth large. 86-5. (Pl. 4, fig. 2.)

## -n cōñ, good.

tō n cō nit, water is good because. 87-10.

## -n ce', bad.

ne n ce', land bad (mud springs). 106-2.

## -nes, long.

la' nes, "hand long," raccoon. 112-5. (Pl. 1, fig. 1.)

Lō' nes, grass long. 80-3.

tea nes, wasp. 150-14.

ts'e k'e nects, "navel long," an eel. 91-2. (Pl. 20, fig. 7.)

## -n telts, broad.

kwe' n telts, "foot broad," a heron. (Pl. 20, fig. 11.)

da' ya' n tel i tcō, "mouths are flat large," geese. 158-14.

## -n Lûts, stout, rough.

tō n Lûts, water rough. 86-6.

## -L gai, white.

ya' L gai, louse white. (Pl. 15, fig. 8.)

Lōn L gai, woodrats. 73-9. (Pl. 20, fig. 2.)

nal gi L gai, white duck. 148-3.

sel gai, white stones. 143-4.

## -L teik, red.

yō' L teik, beads red. 176-14.

tō nai L teik, fish red. 124-15.

## -L tsō, blue.

Lō' L tsō, grass blue. 76-6. (Pl. 2, fig. 8.)

tō nai L tsō, fish blue. 124-15. (Pl. 20, fig. 12.)

## -L cūñ', black.

tō L cūñ' kwōt, black water creek. 98-14.

ges L cūñ', salmon black. 86-2. (Pl. 15, fig. 10.)

## -L cik, shining.

na' L cik, eye shining. 181-9. (Pl. 15, fig. 11.)

## -dûl bai, grey.

ne' dûl bai, (a pine). 86-13. Pl. 20. fig. 5.)

lete ba, grey clay. 76-2.

## -dûl k'ûs, brown(?).

Lō' dûl k'ûs, grass dry. 121-13.

-L tûk(?)

tûn L tûk, leaves die(?). 121-13.

-t biñ, sharp, pointed.

si' t biñ, "heads sharp," a bulb. 149-4.

-tc'its, rough.

se tc'its, sandstones. 77-9. (Pl. 16, fig. 3.)

-Lañ, many.

wō' Lañ, "teeth many." 149-1.

The two following probably have descriptive adjectives.

ta dâl gai tcō, hornet. 151-2.

ta dâl k'ûts, milksnake. 178-9.

#### NOUNS COMPOUNDED WITH VERBS

yicte s'ûl tiñ kwât, "wolf lies dead stream," Ten-mile creek. 173-14.

yō' gûl Lōñ, "beads woven." 176-13.

yō' tcil 'iñ, "bead"(?), abalones. 84-12. (Pl. 20, fig. 6.)

Lō' n'ai, "grass lies," grass game. 146-11. (Pl. 20, fig. 4.)

ne' te li', earthquake. (Pl. 20, fig. 9.)

nûn kwōs tiñ, wild cherries. 131-12.

sai s'an dūñ, "sand lies place," sandy beach. 125-4.

si' bis 'an, "head(?)", head net. 113-8; 147-1.

sûts bûl nûl t'ai, "skin with it flies," flying squirrel. 122-12.

sne' bûl gûl li', "my leg with is tied," my garter. 176-16.

tō ka li gits, "water(?)", mud-hen. 122-9.

tcō' kwī t'īñ, "milk it has," a plant. 149-2.

tcū nal dalts, "tree-run-around," a bird. 124-5.

tcūm meL yīts, "stick tied with," net stick. 169-5.

tcūn ta' nact bats, "tree among(?)". The name of a monster.  
181-10.

tcūn kw t'īñ, "tree (trunk) (?) it has," a kelp. 84-15.

t'ant gûl yōs, devil-fish. Contains stem -yōs, to pull. 85-13; 124-16.

t'a kwil iñ, "feathers they have," birds. 88-8.

gae tcō k'wûl kwī ya gits, "redwood on it runs," red squirrels. 73-7.

k'ai t bûl, "hazel(?)", burden-basket. 135-6.

qōt' yō 'ûts, "knee shoots," blue-bird. 122-9.

#### ADJECTIVES AND VERBS USED AS NOUNS<sup>17</sup>

yil kai, morning, days. 82-10; 105-14.

yis t'ōt, fog. 126-2. (Pl. 18, fig. 15.)

Cf. yī gûn t'ōt, it is foggy. 121-10.

yis kan, day. (Pl. 18, fig. 14.)

<sup>17</sup> III, 21. A number of the words here listed have the form of verbs, but their meaning is uncertain.

- Le döñ<sup>c</sup>, salt. Stem -don, to be bitter. 85-3.  
 L tag, black oaks. 89-17. (Pl. 16, fig. 12.)  
 L teñc, dust. 165-1.  
 nal teñl, white thorn. 91-14. (Pl. 16, fig. 10.)  
 nal cõt, grass-snakes. 124-11. (Pl. 10, fig. 8.)  
 nal tñn<sup>c</sup>ts, kangaroo-rats. Stem -tñn, to jump. 73-10.  
 na nin 'ai<sup>c</sup> k'wüt, "it has horizontal position on," dam on. 168-9.  
 na dil<sup>c</sup>, "they hang," sugar-pines. 86-17. (Pl. 1, fig. 8; pl. 19, fig. 1.)  
 na gai, "it travels," moon. 81-4.  
 na<sup>c</sup> gi, "it is carried," or "it carries," quiver. 147-1.  
 nō le, deeps(?). Certain mythical places in the ocean. 125-16.  
 sak tō<sup>c</sup>, springs. Stem -tō, water. 88-4.  
 sē lin, blood. Stem -lin, to flow. 144-6.  
 seL te'ōi, herons. 72-4. (Pl. 17, fig. 3.)  
 seL kūt, magnesite beads. 176-13.  
 seL k'ūt di, kingfishers. 92-17.  
 s daite, "it sits small," cottontail rabbit. 155-12. (Pl. 18, fig. 13.)  
 ba na t'ai, "main one it stands vertical," post. 130-17. (Pl. 19, fig. 3.)  
 del kñets, fawn. 108-9. (Pl. 19, fig. 5.)  
 dñl nñk, whistles. Root -nñ "to speak, to make a noise." 165-7.  
 dñl teik, yellow pine. Stem -teik, red. 86-13.  
 ta<sup>c</sup> tsit, low tide. 123-15.  
 te lañ, whale. 83-15.  
 te kñs le<sup>c</sup>, kelp. 85-10.  
 t yñs, sea-lion. 83-11.  
 t kac teō, pelicans. 72-13. (Pl. 15, fig. 3.)  
 t bñl, burden basket. 179-11. (Pl. 19, fig. 4.)  
 t kō icts, chestnuts. 89-8. (Pl. 15, fig. 2.)  
 t k'an, ridge. Stem -k'an, to be on edge. 99-3. (Pl. 9, fig. 8.)  
 ts'ūs nō<sup>c</sup>, "they are vertical," mountains. 71-2. (Pl. 19, fig. 6.)  
 ts' kəl dññ, he had walked place. 116-13.  
 te'e nal dñl, comb. 172-15.  
 te'e nes, thunder. 77-12.  
 te'e k'as, brush fence. 115-16.  
 te' wōc, foam. 121-16. (Pl. 19, fig. 11.)  
 te' ga, basket pan. 113-10. (Pl. 19, fig. 10.)  
 te ga ts'e<sup>c</sup>, twine (rolled on the thigh). 116-10. (Pl. 19, fig. 8.)  
 gun da nit, spring was. 121-13.  
 kal dac, "it comes up(?)," morning star. 101-13.  
 kwī yañ, old men. Stem -yañ, to grow, to pass through life. 105-1.  
 kwñn tñc ka ta, shallow places. 75-2.  
 kwñn tel, valley. Stem -tel, to be wide, or flat. 91-14. (Pl. 19, fig. 12.)  
 k'it da ye, flowers. 78-6.  
 k'ūs tel, flat way. Stem -tel, to be wide, or flat. 181-3.

## VERBS WITH INSTRUMENTAL PREFIX USED AS NOUNS.

- bûl sũl tẽi, seed-beater. 113-11.  
 bûl tẽ qõt, net rope. 117-14.  
 bûl gũl gũs, fire-sticks. 110-11. (Pl. 19, fig. 2.)

POLYSYLLABIC NOUNS UNANALYZED<sup>18</sup>

- a dits, grasshoppers. 94-8.  
 in tee', deer. 71-4.  
 i da ki, (a kind of rope). 114-1.  
 i dakw, Wailaki. 172-8. (Pl. 17, fig. 1.)  
 õ 'est', pestle. 113-9.  
 ûn tẽũn, peppernuts. 94-7.  
 yai in tañ', mole. 96-6. (Pl. 20, fig. 3.)  
 wa tẽ'añ, hole through. 78-9. (Pl. 16, fig. 8.)  
 la ce', buckeyes. 94-6. (Pl. 1, fig. 2.)  
 na l gi, dog. 91-9. (Pl. 2, fig. 3; pl. 16, fig. 11.)  
 na nec, people. 71-7. (Pl. 16, fig. 13.)  
 na' eõ k'a, robin. 72-9. (Pl. 17, fig. 2.)  
 na tẽũl, orphan. 102-6. (Pl. 10, fig. 5.)  
 na tẽ'aite, swallows. 73-1.  
 na kũũ, clover. 152-5.  
 nõũ k tẽũũ, tar-weeds. 94-4. (Pl. 16, fig. 15.)  
 nõũ tẽ'ũt, strings. 117-13.  
 nõũ ka dũũ, men. 165-13.  
 sa tẽũũ, tan-oaks. 88-9.  
 sũl sũnte, chipmunks. 73-8.  
 sũn Lants, a star or constellation. 99-8.  
 sũl gũts, lizard. 97-4.  
 ca' na', creek. 79-3. (Pl. 4, fig. 6; pl. 17, fig. 4.)  
 ban yõ, turtle-doves. 92-16.  
 ban sũts, sandpipers. 73-2.  
 ban tẽ', ocean. 86-10. (Pl. 17, fig. 5.)  
 ban tẽõ, mussels. 84-13. (Pl. 17, fig. 8.)  
 be liũ, eels. 90-15. (Pl. 17, fig. 7.)  
 bel get, spear head. 133-8. (Pl. 17, fig. 10.)  
 bel kats, fish-spear. 128-12. (Pl. 17, fig. 11.)  
 be nic, prongs. 170-5.  
 bũs bũnte, barking-owls. 92-8. (Pl. 17, fig. 9.)  
 bũste lõ, owls. 72-2. (Pl. 17, fig. 12.)  
 bũte k'ai', seagulls. 72-12. (Pl. 15, fig. 16.)  
 das tẽañ, gopher. 122-6.  
 da taita, grey squirrels. 73-6.  
 da tẽañ', ravens. 72-2.  
 da tẽel, storage bin. 138-2.  
 dõ H, bears. 71-6.

<sup>18</sup> III, 16.

dól lants, salamanders. 84-4.  
 dún dai, arrowheads. 111-4.  
 ta ka tee, crawfish. 91-2.  
 te le', sack. 113-7. (Pl. 18, fig. 1.)  
 tún nī, roads.<sup>18a</sup> 78-4. (Pl. 17, fig. 13.)  
 tún núc, manzanita berries. 94-5.  
 tsús na, yellow-jackets. 91-7.  
 tcaL nī, varied robins(?). 72-4.  
 tei līl, screech-owl. 92-8.  
 tei lē k'e, slime. 161-12.  
 tein núf', stuffed deer heads. 177-10.  
 tei tcañ, white oak. 131-11.  
 teō bag, poison. 163-7. (Pl. 18, fig. 6.)  
 teún nūL teúnte, Lewis's woodpecker. 72-8. (Pl. 19, fig. 13.)  
 teún te' bag, woodpeckers. 72-11. (Pl. 18, 4.)  
 teún te' gī teō, pileated woodpecker. 72-8.  
 te'a la, sunflower seed. 138-6. (Pl. 18, fig. 2.)  
 te'a hā, frog. 112-11. (Pl. 18, fig. 3.)  
 te'l be teif, fir. 86-8.  
 te'ō la kī, meadow-larks. 72-10.  
 te'ún t yac, condors. 72-7.  
 te'ún t'añ, acorns. 88-15.  
 te'ús sai', chicken-hawks. 72-3.  
 te'ústa, mill-basket. 113-9.  
 te'ū be, firs. 90-1.  
 te' la kī, sapsuckers. 73-11.  
 te' lē linte, humming-bird. 102-12.  
 te' naL dūñ, adolescent girl. 175-10. (Pl. 19, fig. 7.)  
 te' ai teún, coyote. 72-1. (Pl. 18, fig. 9.)  
 te' kak', net. 84-8. (Pl. 18, fig. 5.)  
 t'e kī, girls. 111-2. (Pl. 17, fig. 15.)  
 gō ya nī', stars. 74-7. (Pl. 18, fig. 7.)  
 kəc kits, old man. 108-2. (Pl. 18, fig. 8.)  
 ke bōl, knife. 78-11.  
 kī tsa', basket-pot. 113-8.  
 kwī yint, pigeon. 73-12. (Pl. 18, fig. 10.)  
 k'il lek, boy. 119-7.  
 k'ún ta gits, jack-rabbits. 73-6. (Pl. 18, fig. 11.)

## PRONOUNS<sup>18b</sup>

### PERSONAL

The personal pronouns seem originally to have been confined to the first and second persons, although it is not easy to explain

<sup>18a</sup> Cf. Hupa tin, road, III, p. 13.

<sup>18b</sup> III, 29.

all the third persons as demonstratives. There is a simple form, nominative or accusative; and an emphatic possessive, a dative, and an ablative of accompaniment, apparently formed by suffixes.

### *First Person Singular*

cī, I. 78-14. (Pl. 39, fig. 9; pl. 42, fig. 1.)  
 cī ye<sup>ε</sup>, mine. 141-6. (Pl. 22, fig. 2.)  
 ca, for me. 103-9. (Pl. 22, fig. 1.)  
 cāL, with me. 137-2.

### *First Person Plural*

ne hiñ, we. (Pl. 5, fig. 8.)  
 n hī ye<sup>ε</sup>, ours.  
 n hūL, with us. 125-2.

### *Second Person Singular*

niñ, you. 79-7.  
 nī ye<sup>ε</sup>, yours. 117-1.  
 na, for you. 152-6.  
 nūL, with you. 131-6.

### *Second Person Plural*

nō hiñ, you. 114-11. (Pl. 28, fig. 13; pl. 31, fig. 11.)  
 nō hī ye<sup>ε</sup>, yours.

### *Third Person*

bī ye<sup>ε</sup>, their, hers. 85-4; 88-5.  
 ba, for it. 113-12; 149-12.  
 bāL, with it. 85-5.  
 kīn, himself. 88-7.  
 kin yī, himself. 149-13.  
 kiñ ha<sup>ε</sup>, him (only). 130-3.  
 kī ye<sup>ε</sup>, his. 91-9.  
 kwa<sup>ε</sup>, for him. 110-9.  
 kwūL, with him. 91-9.

### PERSONAL DEMONSTRATIVES<sup>19</sup>

hūñ, he, him.<sup>19a</sup> 174-1; 123-16.  
 hūL, with him. 94-13.  
 yōñ, that fellow. 167-9.

<sup>19</sup> III, 31-33.

<sup>19a</sup> It appears that a suffix ñ renders a demonstrative personal in its application. This also appears in Hupa adjective pronouns and numerals.



## DEMONSTRATIVES

- hī, the (practically an article). 99-6.  
 hai ye, that. 128-12.  
 ha yī, those, that one. 171-19. (Pl. 21, fig. 15; pl. 45, fig. 1.)  
 Cf. the personal demonstratives hūf and hūl above.  
 dī, this. 74-9. (Pl. 24, fig. 15.)  
 yī, right here. (Pl. 21, fig. 6.)  
 yī bañ, the other side. 133-4. (Pl. 21, fig. 8.)

The more remote has the vowel ō or ū with the same initial.

- yū ī, over there. 100-4.  
 yō ī, yonder. 100-7.  
 yō ye, there it is. 182-3.  
 yō ōf, over there. 127-14. (Pl. 21, fig. 7.)  
 yō ōf ha°, yonder. 75-3.  
 yō yī de°, far north. 77-1. (Pl. 21, fig. 5.)  
 yōk°, way. 104-9.  
 Cf. yōf, that fellow. 167-9.

INTERROGATIVE AND INDEFINITE PRONOUNS<sup>20</sup>

These words are usually interrelated in form. There are four initial syllables: da-, relating to conditions; dan-, used of persons; dī-, employed with things and non-human persons; ta-, which is used of both time and place. With each of these there are found three suffixes: -dji (-gī), the simple interrogative, asking which one of several; -ca, -cañ (-ca- plus ñ) with an implication of wonder in the question; and cō°, used in affirmations concerning anything unusual or mysterious.

- da t ya tēi, why. 129-10.  
 dan dji, who. 120-15.  
 dī dji, what. 97-14.  
 ta dji, when, 102-12.  
 ta dji, where. 182-3. Pl. 10, fig. 7; pl. 22, fig. 7.)  
 10, fig. 7; pl. 22, fig. 7.)  
 da t ya cañ, what is the matter. 114-7.  
 dan cañ ha°, who. 144-4.  
 dī cañ, what. 79-2.  
 ta cañ, where. 78-7.  
 da t ya cō kwūc, something is wrong. 114-13.  
 dan cō kwūc, stranger. 119-8.  
 dī cō°, something. 99-15.  
 ta cō kwūc, somewhere I guess. 119-1.  
 tēc cō°, sometime. 135-13.

<sup>20</sup> III, 32.

The following are also of interest:

- da t'in cō, very bad. 122-12.  
 da ti ca nūñ, what will be. 85-6.  
 dac t'ya cō de', if anything is wrong. 166-10.  
 dæc tin dji, why does it do that? 130-14.  
 dæn te cō', something. 167-3.  
 dæn te ca mūñ, how will it be? 78-13.  
 dæn te cō kwûc cāt, something wrong I guess because. 115-4.  
 dæn te gi, how. 139-11.  
 da ya' t'in ge, what did they do? 166-4.  
 da ya'n dji, what they say. 153-14.  
 dæn Lāñ gi, how many. 166-12.  
 dæn ca ūñ, who is it? 170-12.  
 da nī cañ, who is he? 97-4.  
 da hin tci, what you say. 176-10.  
 dī kwōn dī, what kind. 80-4.  
 dō n kē hīt', nothing too bad. 128-1.  
 dō dæn cō', nobody. 99-4.  
 t'a din cō' kwûc, for some reason. 136-8.

### ADJECTIVES<sup>21</sup>

Qualifying adjectives are conjugated after the manner of verbs. The stems of such adjectives are listed with the verbal stems. Many adjectives are listed under nouns with which they form compounds.

#### PRONOMINAL ADJECTIVES

In addition to the strictly pronominal adjectives such as *La'*, another, certain similar ones which are not conjugated are included.

- ō wūñ, some. 122-14.  
 wan t'a', some. 91-10.  
 wūñ, some. 95-6.  
*La'*, another, other. 76-3; 79-5.  
*La mūñ*, will be many. 78-6.  
*La ne*, much. 120-15.  
*lan hit*, much. 137-7.  
*lan dūñ*, many. 138-8.  
*Lan tō le*, will be many. 173-7.  
*Le ne' ha'*, people. 83-4. (Pl. 21, fig. 10; pl. 37, fig. 13.)  
*L ta*, every way. 129-4.  
*L ta'ki*, kind. 83-1. (Pl. 21, fig. 11.)

<sup>21</sup> III, 33.

sōste, slender. 123-16.  
 swōlts, small. 116-9.  
 han dāt ta', last ones. 90-17.  
 tēō yī, another. 118-2.  
 tēō yī ha', again. 80-2.  
 tēō yī ta', other places. 149-9.  
 t'e', raw. 109-11. (Pl. 11, fig. 4.)  
 kwūn Lān, every. 82-9.  
 kwūn Lān, many. 114-12.  
 kwūn Lān ha', every one. 130-7.

## NUMERALS<sup>22</sup>

The Athapascan numerals are generally decimal in their arrangement. Kato follow a quinary system as far as ten. This undoubtedly is connected with the practice of counting the fingers, six being "one on the other side." The Yuki and Pomo neighbors of the Kato make use of octonary and quinary systems, respectively. Four nək ka' nək ka', two-two, has displaced diñ kūt which prevails in the other Athapascan dialects nearby.

### CARDINALS

la ha', one. 82-5.  
 nək ka', two. 178-4.  
 tak', three. 178-5. (Pl. 20, fig. 10.)  
 nək ka' nək ka', four. 108-3.  
 la' sa nī, five. 165-17.  
 yī ban la' ha', six only. 140-9.  
 yī ban nək ka', seven. 166-1. (Pl. 20, fig. 13.)  
 yī ban tak', eight. 103-9.  
 yī ban nək ka nək ka, nine.  
 la' l ba' ūn, ten. 102-14.  
 la' l ba' ūn bīl la ha', ten with one.  
 na dūn la' l ba' ūn, twenty. 178-8.  
 ta dūn, thirty.

### MULTIPLICATIVES

tak' dūn, three times. 165-11.

### DISTRIBUTIVES

la ha' ta, one at a time. 165-15.  
 nək ka' ta ha, two in a place. 108-2.  
 tak' ta, three at a time. 165-16.

<sup>22</sup> III, 32.

DIRECTIONAL WORDS<sup>23</sup>

These directional words are closely connected with nouns in their meaning, the second syllable usually being a monosyllabic name of some direction or cardinal point. They differ from nouns in requiring a demonstrative prefix and in their use, which is usually adverbial.

-nûk', to the south, perhaps "up-stream" was its original meaning.

yô yî nûk', way south. 75-9. (Pl. 20, fig. 14.)

hî nûk', south. 139-13.

hai nûk', here south. 150-14.

hai nûk' k'a', way south, south along. 86-15; 107-16.

di nûk', south. 75-6. (Pl. 20, fig. 15.)

-na ûñ, from the south.

yî na ûñ, from the south. 107-9.

hai na ûñ, from south. 148-9.

-se', to the west, down hill.

yô yî se', far west. 126-6.

hai se', down hill. 106-3.

di se', west, down here. 77-11; 142-8.

-siñ ûñ, from the west.

hai siñ ûñ, from the west. 78-10.

di siñ ûñ, in the west. 80-11.

-de', to the north, perhaps originally "down-stream."

yô yî de', far north. 77-1.

hî de', north. 77-1.

hai de' te'ûñ', north toward. 115-7.

di de', north. 76-12.

-da' ûñ, from the north.

yî da' ûñ, from the north. 75-3.

hai da' ûñ, from the north. 78-8.

di da' ûñ, from the north. 74-10.

-dûk, to the east, uphill.

yî dûk', up hill. 180-3.

yôk wi t'ûkw, far above. 77-3.

hai dûk', up. 99-2.

di dûk', east. 75-4.

<sup>23</sup> III, 328-330.

-da ũñ, from the east, down hill.

hai da ũñ, down hill. 180-5.

dī da ũñ, from the east. 101-9.

-bañ, the opposite side, particularly of streams.

yī bañ, other side. 133-4. (Pl. 21, fig. 8.)

hai bañ, after that. 111-4.

dī bañ, to other side. 105-1.

Cf. L ba<sup>e</sup> ũñ, both sides. 144-10. (Pl. 21, fig. 9.)

### ADVERBS<sup>24</sup>

Adverbs are mostly either monosyllables having adverbial meaning, like k'ũñ, recently, or such elements with demonstrative and negative prefixes.

#### PLACE

ī nīñ, in a corner. 132-12.

yōk wī t'ũkw, far above. 77-3.

yō k'ũñ, way off. 107-5.

ne se k'a, the long way. 140-17.

ne se, is far. 167-2.

ne s dũñ, far. 75-6.

ne s dũñ ē, it is far. 140-17.

ne s dũñ ha<sup>e</sup>, far away. 86-14.

nũn kwi ye, underground. 75-8. (Pl. 21, fig. 12.)

hakw, right here. 160-1.

ha kwān, up there. 182-9.

da<sup>e</sup>, up. 99-15.

de k'a, here. 79-2.

dī ũn, up there. 109-10.

djāñ ha<sup>e</sup>, here. 97-9.

t ga ma, along shore. 77-1.

t ga mats, by the shore. 155-1.

kũn dũn ne, close. 104-13.

kũn dũntc, nearby. 79-6. (Pl. 22, fig. 12.)

kwũn nũn ũñ, up this way. 85-8.

#### TIME

han dūt, next time. 136-4.

ha gī, long time. 134-3.

ha ge<sup>e</sup> dũñ<sup>e</sup>, long time. 106-17.

ha ge kwũc, long time probably. 139-1.

hakw dũñ<sup>e</sup>, then. 71-2. (Pl. 5, fig. 7.)

hō ta, then. 84-10.

<sup>24</sup> III, 328-338.

dañ<sup>c</sup>, already, long ago. 78-14; 121-13.  
 da sīts, soon. 136-5. (Pl. 22, fig. 6.)  
 dō k'ūñ, already, not recently. 136-7; 175-1.  
 dō k'ūñ ha<sup>c</sup>, long ago. 155-15.  
 t'ūn dūñ ha<sup>c</sup>, all the time. 113-1.  
 gūn t'ē, now. 81-2.  
 kac bi<sup>c</sup>, tomorrow. 104-9. (Pl. 22, fig. 10.)  
 kw t nūñ, next time. 166-9.  
 k'ūñ, just now. 103-8.  
 k'ūn nūñ, before. 97-14.  
 k'ūn dīt', before. 137-5. (Pl. 22, fig. 11.)  
 k'ūn dūñ, yesterday. 128-7. (Pl. 22, fig. 13.)  
 k'an cañ, this time. 167-8.  
 k'at de<sup>c</sup>, soon. 96-4. (Pl. 22, fig. 14.)

#### MANNER AND DEGREE

la kwa, just, only. 155-9; 164-11.  
 la kit, for nothing. 166-9.  
 la kwit, anyway. 133-14.  
 nīkts (nī ikts), slowly. 100-13; 140-16. (Pl. 21, fig. 13.)  
 sa'dūñ, alone. 120-16.  
 sa'dūñ ha<sup>c</sup>, alone. 87-7.  
 sa'dūñ k'wa, alone. 172-3.  
 sūt', little way. 161-5.  
 st'ō<sup>c</sup>, nearly. 123-8.  
 cañ, only. 78-6.  
 ca nī, only. 71-2.  
 cō, too much. 82-10.  
 cō<sup>c</sup>, in vain. 130-9.  
 cō n cōñ, very well. 109-4.  
 cōñ kē, well. 166-5.  
 cōñk', well. 71-1. (Pl. 22, fig. 3.)  
 cōñ kwa, well. 181-13.  
 cō<sup>c</sup>t, in vain. 159-12.  
 kakw, fast. 93-12.

#### POSTPOSITIONS<sup>25</sup>

The following elements when suffixed to nouns or pronouns make prepositional phrases.<sup>25a</sup>

-ye, under.

ō ye<sup>c</sup>, under. 101-6. (Pl. 21, fig. 2.)

ō ye ta<sup>c</sup>, under places. 180-1.

<sup>25</sup> III, 339-343.

<sup>25a</sup> Cf. also the Locative Suffixes of Nouns, p. 24.

-wakw, to one side of.

wakw, to one side. 97-4. (Pl. 11, fig. 1.)

nō'wa ka, about yourselves. 173-2.

nō wakw, away from us. 173-5.

-lai<sup>e</sup>, top, end, on top of.

ū lai<sup>e</sup>, its top. 103-13. (Pl. 21, fig. 3.)

-L, with.

būL, with it. 85-5.

kūL, with him. 91-9.

-na, around, encircling.

ō na, around it. 77-2.

-na tag ha<sup>e</sup>, without the knowledge of.

kw na tag ha<sup>e</sup>, without his knowledge. (Pl. 8, fig. 9.)

ū na tag ha<sup>e</sup>, not knowing. 156-9.

nō na tag ha<sup>e</sup>, without our knowledge. 129-15.

kūc na tag ha<sup>e</sup>, without their knowledge. 155-8.

-nīte, midway of.

ō nīte, half-way. 122-15.

ō nī tcūt, its middle. 162-14.

-nō<sup>e</sup>, behind.

ū nō<sup>e</sup>, behind it. 103-2.

-nē dūñ, base of.

kin nē dūñ, its base. 182-10.

-bī<sup>e</sup>, in. (The element may be -ī<sup>e</sup>, b being the pronoun.)

bī<sup>e</sup>, in it. 97-13. (Pl. 6, fig. 7.)

đī bī<sup>e</sup>, this in. 90-16.

-dai<sup>e</sup>, outside of.

ō dai<sup>e</sup>, outside. 98-4. (Pl. 21, fig. 4.)

-dūk', up, on top.

kw dūk', top. 127-9.

-ta', among.

bī ta', among. 107-14.

đī ta', this place. 157-5.

-tūs, over, beyond.

ō tūs, beyond it. 77-12.

kw tūs, over him. 156-14.

-tūk gūt, between

ō tūk gūt, between. 160-9.

-te'ûñ<sup>e</sup>, to, toward.

a te'ûñ<sup>e</sup>, to himself. 87-7.

ô te'ûñ<sup>e</sup>, to him. 79-9. (Pl. 3, fig. 4.)

û te'ûñts, close by. 156-10.

nô te'ûñ<sup>e</sup>, to you. 97-7.

l te'ûñ<sup>e</sup>, together, toward each other. 104-1.

kw ts'ûñ<sup>e</sup>, to him. 174-2.

-te'ûñ a, before, in front of.

û te'ûñ a, before it. 153-3; 77-7.

-t'ûkw, above, beyond.

ô t'ûkw, above, way back. 77-3; 104-11.

-t gûñ, around, behind.<sup>26</sup>

a te gûñ, around yourselves. 169-4.

-kwa<sup>e</sup>, for.

kw kwa<sup>e</sup>, for him. 119-1.

nô kwa, for us. 181-7.

-ke<sup>e</sup>, behind.

ske<sup>e</sup>, after me. 97-10.

ske<sup>e</sup> ha<sup>e</sup>, behind me. 141-8.

-k'e, back, in the opposite direction.

at k'e, back of himself. 86-17.

-k'wût', on (perhaps combined with a demonstrative).

k'wât', on it. 75-6.

## PARTICLES AND INTERJECTIONS<sup>27</sup>

al te, come on, well. 98-6; 125-7.

a bî, stop. 100-1.

ô he, that is so. 173-14. (Pl. 21, fig. 1.)

û wê, O yes. 100-10.

ûñ, it was. 182-9.

l'ûñ, so it is. 100-3.

na 'a<sup>e</sup>, here. 97-13.

nî i, say. 164-9.

nî ie, say. 100-3.

nô dô<sup>e</sup>, nô' dô, go ahead, come. 103-7; 115-7.

he û<sup>e</sup>, yes. 82-2. (Pl. 21, fig. 14; pl. 33, fig. 9.)

dô, no, not. 79-4; 100-10. (Pl. 7, fig. 1; pl. 22, fig. 8.)

te he he i, (laughing). 147-5.

tea<sup>e</sup>, listen. 182-15.

ka<sup>e</sup>, well. 76-12.

<sup>26</sup> Cf. prefix t gûn in t gûn nas t gets, he looked back. 132-2.

<sup>27</sup> III, 343.



## VERBS

In Kato, as in other Athapascan dialects, the verbs are usually complete in their meaning and are really sentences. The adverbial concepts of place and direction are expressed by prefixes standing first in order. The object and subject pronouns precede the verbal stem in the order named. The relation of time in regard to inception, duration, repetition, completion, etc., is also expressed by prefixes, all of which precede the subject. Standing between the subject and the stem are modal prefixes which control to some extent the voices of the verb.

The stems themselves often vary in the quality of the vowel and in the final consonants in a manner analogous to accent. These varying forms occur in different tenses. Many of the stems indicate the character and shape as well as the number of the object or subject. Some stems are identical with monosyllabic nouns. The act itself in these instances seems not to be named, but is understood or inheres in the entire verb without an especial element for its expression.

The suffixes for the most part are subordinating, expressing the time relations, conditions, and the source of information. Not only is the material (prefixes, stems, and suffixes) from which the verbs are made identical, except for regular phonetic changes, with that employed in Hupa, but many of the complete verbs are similar.

## PREFIXES

*First Position*

a-. Certain verbs of a sort usually requiring a double object have this prefix when the direct object does not immediately precede. These verbs express the doing, saying, and thinking of special things.<sup>28</sup> This prefix forms an independent syllable except when followed by c, the first person singular.

a ya ci lag, took me up. 158-14.

a ne, she said. 152-8.

a nō' t'e, you are. 139-1.

a dōc yi, I boast. 128-1.

a kwūc la ge, I fixed him. 182-14.

ac t'e ye, I am. (Pl. 40, fig. 7.)

<sup>28</sup> III, 90.

*Adverbial*

**ya<sup>a</sup>.** Used of motion or position upward or into the air.<sup>28a</sup> The duration is .12 seconds. There is syllabic union with the third modal prefixes *l* and *n*, perhaps also with *c*, first person singular. A form *yai-* appears the probable result of accentuation.

*ya* 'ac, he put up. 99-10.

*yaL* dac bûñ, you must jump up. 82-16.

*yañ* 'ai<sup>a</sup>, it stood. 156-15.

*ya kwôL* t'a, make him fly. 182-16.

*ya*<sup>a</sup> gûL gal, he threw up. 142-3. (Pl. 23, fig. 1.)

*nô* gûL gâl, he threw down. 92-5.

**ye<sup>i</sup>-, yî<sup>i</sup>-.** Used of motion into a house or other partly enclosed space.<sup>29</sup> The form *yî<sup>i</sup>-* appears to be the result of accent. Duration of *ye<sup>i</sup>* is .25, of *yî<sup>i</sup>* .18. Syllabic union with following sounds seems never to take place.

*ye* nat *ya*, he went in. 177-13.

*ye* hen *yac*, come in. 141-9.

*ye* te' gûn *yai*, she went in. 132-13. (Pl. 10, fig. 9; pl. 23, fig. 2.)

*yî* he dûL, you go in. 97-10; 153-2.

*ye* gî nai<sup>a</sup>, they went in. 107-17.

*te'e* nî nai, came out. 164-9.

**wai- or wa.** Used of position over, at one side of, or near.<sup>30</sup> Duration .12.

*wa* in *yai*, he went around. 97-3.

*wai* te' gûn get, he struck over. 164-2.

*wa*<sup>a</sup> ãñ kãñ, he placed before him. 129-4. (Pl. 23, fig. 3.)

**wa-** Used of motion through an opening or small space.<sup>31</sup> The duration of the syllable is about .27 seconds.

*wa* ãñ ãñ, she carried through. 180-2.

*wa* nûn tci bûñ, shall be wind. 80-14. (Pl. 23, fig. 4.)

**le-** Used of the position near or movement toward each other of two or more objects.<sup>32</sup> The duration of the vowel is about .15.

*le* l yîts, he tied together. 174-15. (Pl. 43, fig. 11.)

*le* ges 'a<sup>a</sup>, encircled. 82-15. (Pl. 23, fig. 5.)

*leñ* 'a<sup>a</sup>, (water) met. 83-6.

<sup>28a</sup> III, 39.

<sup>29</sup> III, 41.

<sup>30</sup> Compare the Hupa second *wa-*, III, 44.

<sup>31</sup> III, 44.

<sup>32</sup> III, 44.

**lûn-**. Used with verbs meaning to assemble. It is perhaps related to the last.<sup>33</sup>

*lûn tes ya hût*, they came together when. 148-9. (Pl. 29, fig. 4.)

**na-**. Used of indefinite movements over the surface of land or water.<sup>34</sup> The ordinary duration for the vowel is .13, but *na ca* and *na ga* have .19-.25. There seems to be contraction with *o'*, the second person plural prefix, and syllabic union with *s*, second modal.

*na ca'*, I will go about. 133-6. (Pl. 23, fig. 7; pl. 35, fig. 10.)

*na ga kwâñ*, he had walked. 154-12. (Pl. 42, fig. 6.)

*na' be*, swim (dual imp.) 111-2. (Pl. 36, fig. 9.)

*na' ke'*, swim (plural imp.). 172-14. (Pl. 45, fig. 2.)

*na wô' nic*, you played about. 134-17. (Pl. 8, fig. 5.)

*nas 'ûts*, he ran about. 134-3. (Pl. 29, fig. 1.)

*nas lât*, he burned around. 79-3.

**nai-, na-**. Used of horizontal position or motion as across a stream.<sup>35</sup> The duration of *nai-* is .31, of *na-* .16.

*nai 'ai bûñ*, it will be across, it will have waves. 85-8. (Pl. 23, fig. 8.)

*na nic ge'*, I will carry you across. 141-4.

*na nûñ 'ai*, fish-weir, "it is across." 133-9. (Pl. 28, fig. 3.)

*na nûn lat*, jump across. (Pl. 34, fig. 3.)

*na nûn yai*, she started across. 154-2.

**naid-, nait-, nad-, or nat-**. Used of position or motion at right angles to a horizontal line or surface.<sup>36</sup> The second syllable begins with *d* if a vowel follows, with *t'* if the following vowel is preceded by a glottal stop, and consists of *t* if followed by a consonant. The duration of the vowel is about .17, varying from .16 to .19.

*nai t gâl 'a'*, he stood up a stick. 116-6.

*na dôl 'a' bûñ*, let it stand on end. 108-3.

*na t gâl 'a'*, he stood it up. 76-6. (Pl. 28, fig. 2.)

*na t gâl 'âl*, he stood them up along. 88-13. (Pl. 26, fig. 8.)

*na t'a' bûn dja'*, will stand up. 91-17.

**na na-**. Denoting a movement downward.<sup>37</sup> The duration of the vowel in the first syllable is about normal (.16), that of the

<sup>33</sup> Compare *Hupa linyate*, they come together. I, 295-1.

<sup>34</sup> III, 48.

<sup>35</sup> III, 49.

<sup>36</sup> III, 51.

<sup>37</sup> III, 51.

second syllable shorter, about .12, and probably followed by a glottal catch.

- na na iL dŭL, he moved it up and down. 150-1.  
 na na gŭl liŋ, it runs down. 121-14.  
 na na gŭl dac, he jumped down. 146-3.  
 na na gŭŋ giŋ, he took them down. 145-17.  
 na na gŭt yai, he came down. 129-11.  
 na nŭn dac, come down. (Pl. 23, fig. 6.)

nō-. Used of being in or coming to a position of rest on the ground, and also of reaching other limits of motion.<sup>28</sup> The average duration of the vowel is .16, varying from .14 to .19. When followed by c, first person singular, n, second modal in first person plural, or one of the third modals, it is joined with them in one syllable.

- nō'ac, put it (imp. plu.). 110-11. (Pl. 28, fig. 7.)  
 nō naŋ ət, he untied half way. 122-15. (Pl. 44, fig. 6.)  
 nō na nī kata, I fell back. 182-16. (Pl. 44, fig. 11.)  
 nō nŭn yiŋ, they lived. 160-12. (Pl. 29, fig. 12.)  
 nō cŭl gal, throw me. 133-4. (Pl. 25, fig. 1.)  
 nō ga 'ac, he put down. 86-11. (Pl. 23, fig. 11.)  
 nō t'e'ŭn tō', water reached (a certain point). 75-1. (Pl. 7, fig. 6.)  
 nōc ge', I carried. 182-1.  
 nōn da 'aŋ, we put down. 172-2.  
 nōl k'as, they fell. 152-2.  
 nōl tiŋ, he laid him down. 80-6.  
 nō' ŋ 'an, he placed. 76-3.

nŭn-. Seems to be used of pressure or impact against a surface. The vowel is short as is usual in closed syllables; from .06 to .1.

- nŭn iŋ gal, let me chop. (Pl. 42, fig. 7.)  
 nŭn ŭn dāk k'e', get up. 100-3. (Pl. 44, fig. 8.)  
 nŭn yiL t'o gŭt, she stung when. 156-15. (Pl. 26, fig. 3.)  
 nŭn yiL tsŭL, (ocean) beats against it. 86-12. (Pl. 41, fig. 2.)  
 nŭn neL k'ai, he made stick in. 156-14. (Pl. 45, fig. 9.)  
 nŭn sŭl gal, you beat. 129-10. (Pl. 42, fig. 8.)  
 nŭn s'ŭs dāk k'e', he got up. 98-5. (Pl. 23, fig. 10.)  
 nŭn s'ŭs tiŋ, she took him up. 179-14. (Pl. 39, fig. 7.)

be-. Used of motion along a vertical or steep surface, as a tree or hillside.<sup>29</sup> The duration of the vowel is .2. It unites with weak prefixes when they directly follow.

<sup>28</sup> III, 53.

<sup>29</sup> Compare me- III, 46.

bes ya hût, he climbed up when. 143-9.  
 bes gif, he carried it up. 98-16.  
 be cō' lōs, lead me up (imp. plu.). 147-6. (Pl. 6, fig. 1.)  
 bē dâl, let us climb. (Pl. 23, fig. 13.)  
 da bes ya<sup>e</sup>, he climbed up. 180-6. (Pl. 6, fig. 4.)  
 ben t'a tē le, you will fly up. 182-11.  
 bec na<sup>e</sup>, I roast it (I lean it against[?]). 168-16.

This prefix seems to be used also in a figurative sense, at least in one less definite in its meaning.

beL ke<sup>e</sup>, it is finished. 172-12.  
 be nîL ke<sup>e</sup> e, I have finished. 78-14.  
 be dâl 'ai<sup>e</sup>, let us try it. 109-6.  
 be gûn t'ēg, he taught. 122-11.  
 bes ya hût, he climbed up when. 143-9.  
 tes ya hût, he went because. 118-3.

da-. Relating to a position higher than the ground.<sup>40</sup> The vowel with considerable aspiration is about .18 in duration.

da ûn dic ge<sup>e</sup>, I take you up. 141-4. (Pl. 7, fig. 3.)  
 da nō la, she put it up. 181-5.  
 da bes ya<sup>e</sup>, he climbed on. 180-6. (Pl. 6, fig. 4; pl. 23, fig. 14.)  
 da nō la, she put it up. 181-5.  
 nō la, he put it. 79-13.

de d-, (t-). Used of motion into or position in a fire.<sup>41</sup> The duration of the vowel is about .2.

de dic tãf, I will put in fire. 110-3. (Pl. 39, fig. 2.)  
 de dâf 'ac būf, you may put in fire. 127-12. (Pl. 23, fig. 15.)  
 de t gûn 'af, he put in fire. 157-13. (Pl. 7, fig. 2.)  
 ye te' gûn 'af kwân, he had put in. 115-14.

dje-. Used of the splitting or separating a mass into two, perhaps more parts.<sup>42</sup> The duration is .12.

dje<sup>e</sup> gûL tal<sup>e</sup>, he kicked open. 81-15.  
 dje<sup>e</sup> gûL teel, he split open. 129-3. (Pl. 24, fig. 5.)  
 dje<sup>e</sup> gûn t'ats, he divided. 80-3.

tai-, ta-. Used relating to water or other fluids.<sup>43</sup> The usual duration is from .15 to .18, but coming before n or d, it sometimes takes a final n or t and shortens its vowel.

<sup>40</sup> III, 58.

<sup>41</sup> III, 61.

<sup>42</sup> III, 61.

<sup>43</sup> III, 61.

tai 'ac búñ, it (water) will settle back. 85-8.

tai nən, drink. 88-6.

ta ya' ô nən, let them drink. 123-6. (Pl. 33, fig. 5.)

ta nas t ya, he came out of the creek. 175-3.

Cf. tən nas djöl', rolled out of fire. 147-9. (Pl. 41, fig. 3.)

ta te'ô' búl, prepare (soup). 123-13. (Pl. 24, fig. 1; pl. 37, fig. 6.)

tət dúl sús, we dragged out. (Pl. 35, fig. 6.)

ta gúl gal, he threw in water. 90-14.

ya gúl gal, he threw up. 142-3.

tai-, ta-. Uncertain, seems only to occur with stem -t'as -t'ats, meaning to butcher.<sup>44</sup>

tais t'ats, he cut up. 144-3.

ta't'as, butcher (imp. plu.). 109-4.

ta gút t'ats, they cut up. 175-4. (Pl. 24, fig. 2.)

dje' gún t'ats, he divided. 80-83.

te'-. Relating to water, but usually to motion into or position under water.<sup>45</sup> The vowel including marked aspiration has a duration of .16.

te'nô dâg ge', we will put in water. 139-9. (Pl. 7, fig. 5; pl. 24, fig. 3.)

te'nôl 'ûts, it ran in water. 174-10.

te'te' gún tal', he stepped in water. (Pl. 38, fig. 10.)

te'na te'ûl deg, she washed them. (Pl. 38, fig. 3.)

te'nô nî gî ne, I put in water. 140-1.

nô nî gî ne, I put it down. 137-2.

t gún-. Meaning around, back, behind.

t gún nais 'an, they turned around. 106-2.

t gún nas t gets, he looked back. 132-2.

nas t gets, he looked around. 99-5.

ts'ûn-. Meaning away from, in verbs of fleeing.<sup>46</sup>

ts'ûn tel del', they ran off. 165-10; 178-10.

tc'e-. Meaning out of, correlative of ye-, into.<sup>47</sup> The vowel has a duration of about .12. It unites in first person with c and in third person with modals n, l, and L.

tc'e nan la, he jumped out. 142-6. (Pl. 34, fig. 4.)

tc'e nal 'ac, she takes out. 180-11.

tc'e nûn yac, come out. (Pl. 24, fig. 4.)

tc'e n tən, he took out. 170-14.

<sup>44</sup> III, 62.

<sup>45</sup> III, 63.

<sup>46</sup> Compare Hupa tsin-, III, 63.

<sup>47</sup> III, 63.

te'en giñ, he carried out. 98-5.  
 te'e kū wūl tin, he was pulled out. 160-6.  
 te'el gal, he was thrown out. 102-7.  
 te'el tae būñ, you must carry out. 104-1.  
 te'en yai, he went out. 102-9.

ka-. Used of motion up out of the ground or water and also up a hill or the sky.<sup>48</sup> The average duration is .17, but when the vowel is closed it is about .1.

ka ya' ci', they dug (bulbs). 148-12.  
 kał 'ai būñ, it will grow up. (Pl. 26, fig. 9.)  
 ka na gūllē, he came up (out of water). 175-3.  
 ka na mīl', they carried it up (the river bank). 175-4.  
 ka nac, sun came up. 81-2. (Pl. 24, fig. 7.)  
 ka si del', we came up. 141-2. (Pl. 1, fig. 7.)  
 ka gūl 'al kwāñ, they had sprung up along. 87-6. (Pl. 27, fig. 7.)  
 ka nac būn dja', shall come up. 99-11.  
 k'ē nac būn dja', it shall go down. 99-12.

kai-, ka- (kwa-). Used with verbs of searching or looking for.<sup>49</sup> The k is strongly aspirated. The duration of the vowel is normal, .18.

kai n te būñ, (they) must look for. 173-9.  
 ka ya' ūn te, they looked for it. 179-6.  
 kwa nō' tē, look for it. 164-11. (Pl. 24, fig. 6.)  
 ka kw nō' te, look for him. 160-1. (Pl. 39, fig. 1.)

kō, kwūn-. Used of general conditions, as of the weather.<sup>50</sup> There seem to be two forms: kwūn- is very short, .06, and kō-, .12.

kō wūn yan, it grew. 166-7.  
 kō wūn nūñ, it (ground) jarred. 177-14.  
 kō wūn sūl, it was hot. (Pl. 1, fig. 5.)  
 kō wūn tel, level. 106-6.  
 dō kō gis iñ, one couldn't see. 81-1. (Pl. 24, fig. 13.)  
 kwūn tel tē lit, it was becoming flat. 107-3. (Pl. 27, fig. 2.)  
 kwūn sat, deep water. 74-10. (Pl. 34, fig. 11.)  
 kwūn lañ, it is finished. 77. (Pl. 22, fig. 15.)  
 kō wūn sūl, it was hot. 81-2.  
 gūn sūl, it became warm. 96-4.

kō-, kwūt-. Meaning down, or down hill.<sup>51</sup>

kō te' gūl 'ūts, they ran down. 153-9.  
 kwūt te' gūn yai kwāñ, he had come down to. 116-5. (Pl. 24, fig. 9.)

<sup>48</sup> Compare Hupa xa-, III, 56.

<sup>49</sup> Compare Hupa xa-, III, 66.

<sup>50</sup> Hupa xō-, III, 94.

<sup>51</sup> III, 57.

**kwûn-**. Used with a stem -yôt, the verb as a whole meaning to pursue. The vowel has a duration of .09.

kwûn t gi yôt, they pursued him. 145-14.

kwûn tin yôt, they ran after him. (Pl. 30, fig. 13.)

kwûn ya yôl, they followed. 179-8.

**kwa-**. Seems to be used with the meaning of "manner like."<sup>52</sup> The duration varies from .08 to .12. The glottal stop is usually present.

kwa'la, you (plu.) did. 109-4.

kwaL i mâñ, you must do it. 136-2.

kwaL iñ, he did. 129-4.

kwac 'i ne, I always do that. (Pl. 28, fig. 12.)

dī kwa'L siñ, he did this way. 79-12. (Pl. 24, fig. 15.)

coñk' kwa' lae, he did well. Cf. 104-6. (Pl. 22, fig. 3.)

**kwûn ye'-**. Under the ground or water. The first vowel is short, .06; the second syllable ends in an aspiration which may be identical with ye' on p. 43 above.

kwûn ye i dûL kwûc, underground we will go. 138-10.

kwûn ye dûL tâc tel, we will bury it. 115-8.

kwûn ye gûl lat, it has sunk. 174-12. (Pl. 24, fig. 8.)

kwûn ye hī dûL tē le, we will go (underground). 140-15.

tī dûL tē le, we will go. 136-5.

**k'e-**. Of severing as in biting and cutting.<sup>53</sup>

k'e tc' ûs t'ats, he cut. 146-11.

k'e tc'ûn yān kwān, bitten off. 161-7.

k'e tcin nac bûñ, you must bite off. 101-7.

**k'ē-**. Apparently means down, used only of setting of heavenly bodies.

k'ē nac bûn dja', it (sun) shall go down. 99-12.

k'e nin yac bûñ, you must go down. 101-15.

#### *Deictic*<sup>54</sup>

The third person of the verb does not have a subjective prefix of the sort and in the position found in the first and second persons, but is marked by the absence of such a prefix. In many cases, however, a prefix with demonstrative force is found.

The singular subject when indefinite or not named in connection with the verb is referred to by tc'-. This follows the

<sup>52</sup> Hupa xa-, III, 77.

<sup>53</sup> III, 85.

<sup>54</sup> III, 99.



adverbial but precedes the first modal prefixes. Usually it forms or begins a syllable which contains no vowels. A following consonant often seems to close the syllable.

- te'ús qót, he speared it. (Pl. 8, fig. 8.)  
 te'ús t'ók', he flaked. 156-7. (Pl. 11, fig. 8.)  
 te'n neL yíl', she eats up. 180-9. (Pl. 1, fig. 9.)  
 te' nes tíf, he lay down. 175-11. (Pl. 5, fig. 2.)  
 te' nún yai, he came there. 142-14. (Pl. 25, fig. 6.)  
 te'n ne gúl 'iñ', he looked at it. 156-16. (Pl. 25, fig. 12.)  
 te' sún úf gí, he is standing. (Pl. 26, fig. 2.)  
 te't taL bañ, he walked lame. 133-6. (Pl. 24, fig. 14.)  
 te't taL búl kwán, he had hung up. 176-3. (Pl. 27, fig. 8.)  
 te'qal ya' ní, she was walking they say. 93-12. (Pl. 2, fig. 5.)  
 te'gún yíc, he broke it. 79-12. (Pl. 10, fig. 3.)  
 ye te' gún yai, he went in. 97-11. (Pl. 10, fig. 9.)

What seems to be this prefix was often recorded ts'.

- ts'úl san, he saw him. 97-4.  
 ts'ús lí', he tied. 145-8.  
 ts' síñ, stood. 75-10.

With no apparent distinction in meaning s'- was frequently heard in place of te', and ts'.

- s'ús yí', he made a house. 168-7. (Pl. 30, fig. 9.)  
 s'ús líñ', he became. 84-11. (Pl. 32, fig. 3.)  
 s'ús te'añ, he shot it. (Pl. 41, fig. 7.)  
 nún s'ús dūk k'e', he got up. 98-5. (Pl. 23, fig. 10.)  
 nún s'ús tíf, he picked him up. 179-14. (Pl. 39, fig. 7.)

A subject which is named, or the last mentioned of two or more nouns, is referred to by yí-. This often unites with the third modals.

- ye yí gún 'an, came in. 130-16.  
 yíl san, he found. 134-14.  
 yíl sūt, (water) broke. 75-3.  
 yís t'áts, he cut it. 162-10.  
 nún yíl t'ó gút, when he stung. 156-15. (Pl. 26, fig. 3.)  
 yí nēl iñ', one man looked. 165-11.  
 te'n neL in', he looked. 88-16.

The plural and the dual when not distinguished by the stem, have ya- in the position occupied by the other deictic prefixes.<sup>55</sup>

- ya'n ya' ní, they said they say. 82-11. (Pl. 4, fig. 4.)  
 be ya'L 'ai', they tried it. 85-2. (Pl. 28, fig. 5.)  
 ta ya' ó nañ, let them drink. 123-6. (Pl. 33, fig. 5.)  
 ka ya' ún te, they looked for it. 179-6.  
 ka ún tē, she looked. 114-9.

<sup>55</sup> III, 99.

The deictic prefixes *tc'*-, *yī*-, and *ya*<sup>e</sup>- occur not only referring to the subject but to the object, in which case they are found in all persons of the verb. The Hupa prefix corresponding to *tc'*- when used of the object is *k*- or *ky*, giving evidence of separate origins for forms now indistinguishable in Kato.<sup>55</sup>

- tc'el na*<sup>e</sup>, roast. 109-6.  
*tc'ic t'a tē le*, I will make. 156-5. (Pl. 40, fig. 5.)  
*tc'ō' yāñ*, you (plu.) eat. 148-6.  
*tc'ō' sūt*, pound. 110-5.  
*tc' wō' bāl*, carry it (plu.). 110-15. (Pl. 37, fig. 4.)  
*yīs tc'āñ kwāñ*, who shot. 141-12.  
*yī gūn yāñ*, (they) ate it. 113-16.  
*tc' ōñ gī la nē*, I went after. 136-10.  
*tō ōñ gī la ne*, water I brought. 137-1.

### Objective

The object, except when of the third person and definitely named, is incorporated in the verb, occupying a position between the deictic prefixes and the first modals. These weaker forms of the pronoun are found also as possessive prefixes with nouns; first person singular *c*-, first person dual and plural *nō*-, or *n h*-, second person singular *n*-, second person plural *nō*- or *n h*-, third person singular *kw*-, third person plural *ya*<sup>e</sup>*kw*.

In the case of verbs of speaking with the stem *-nī*, *-n*, the pronoun is combined with *L*, "with," and precedes the deictic prefixes. The pronoun also precedes the prefix *ga*-, *wa*-, meaning "to," of which it is considered to be the object rather than that of the complete verb.

- cūL sūs e*, (nobody) sees me. 176-1.  
*c nōL iñ*<sup>e</sup>, look at me. 103-9.  
*c gī yal*, I am sleepy. 164-4. (Pl. 29, fig. 7.)  
*nō<sup>e</sup> cūL gal*, throw me. 133-4. (Pl. 25, fig. 1.)  
*be cō' lōs*, lead me up. 147-6. (Pl. 6, fig. 1.)  
*tc'e nō' nūñ a ne*, he killed us. 117-6. (Pl. 25, fig. 4.)  
*n he ōL ka kwie*, we will pass the night. 105-3. (Pl. 27, fig. 10.)  
*n hōc t ge*<sup>e</sup>, let me see you. 142-6. (Pl. 43, fig. 2.)  
*ne ō dūñ*, you will die. 177-4.  
*da' n die ge*<sup>e</sup>, I take you up. 141-4. (Pl. 7, fig. 3.)  
*kw nīL iñ*<sup>e</sup>, she looked at him. 134-2. (Pl. 9, fig. 5.)  
*Cf. cūL tc'nī*, he asked me. 182-3.  
*c gal tcōs*, give me. 97-13.

<sup>55</sup> III, 84.

*First Modal*

ô.—There are a few verbal stems which seem to require this prefix, but it has not been possible to isolate it sufficiently to find its meaning. Its position is after the objective and before the following prefixes.

ôc lăñ<sup>67</sup>, I will get. 137-2. (Pl. 24, fig. 11.)

ô't gûc, look at them (imp. plu.). 164-9. (Pl. 25, fig. 13.)

n hôt t ge<sup>68</sup>, let me see you. 142-6. (Pl. 43, fig. 2.)

te'ô na gût gûc, he looked back. 87-13. (Pl. 43, fig. 4.)

te'ôL yî kwân hût, he had named when. 117-12.

na-. With an iterative force indicating that the act is repeated or the direction is reversed.<sup>67</sup>

nas li<sup>68</sup>, he tied up. 145-7. (Pl. 32, fig. 6.)

nas dûl lîn nê, we have got back. 95-12. (Pl. 3, fig. 6.)

nô na nî kats', I fell back. 182-16. (Pl. 44, fig. 11.)

te'e nan la, he jumped out. 142-6. (Pl. 34, fig. 4.)

te'e na gût dac, he came out again. 149-13. (Pl. 37, fig. 10.)

ka na gûl lăc, she digs out. (Pl. 31, fig. 1.)

nas liñ<sup>68</sup>, it became (again). 107-8.

slin<sup>68</sup>, it became (first time). 76-9.

t-, te-. With a distributive or progressive force as regards the act itself, its object or subject.<sup>68</sup> The form te- is found in tenses expressing definite action. In other cases the vowel û, short and weak, is found, or the vowel is that required by a following prefix.

tî dûl, let us go. 141-6. (Pl. 38, fig. 2.)

tûc ge<sup>68</sup>, I will carry. 135-4. (Pl. 8, fig. 4.)

n tō laL, let him sleep. (Pl. 31, fig. 8.)

te' tōL k'as dja<sup>68</sup>, let him drop acorns. 129-8. (Pl. 10, fig. 4.)

tât bûl, it rains. 74-4. (Pl. 36, fig. 12.)

te sîL teôl<sup>68</sup>, I stole. Cf. 141-15. (Pl. 42, fig. 1.)

te't te gûs tei<sup>68</sup>, nearly daylight; the east was reddening. (Pl. 41, fig. 12; pl. 8, fig. 2.)

te't te lôs, he led. 175-2. (Pl. 32, fig. 10.)

dô ha<sup>68</sup> te't teL kût, they did not go. 167-17. (Pl. 45, fig. 7.)

te't teL bañ, he walked lame. 133-6. (Pl. 24, fig. 14.)

n tes laL ya<sup>68</sup> nî, he went to sleep they say. 83-4. (Pl. 31, fig. 10.)

te'tes yai, he went. (Pl. 29, fig. 2.)

te't tes de lê, they went on. 108-12. (Pl. 38, fig. 1.)

te't tes gîñ, he carried. 101-9. (Pl. 43, fig. 3.)

<sup>67</sup> III, 67.

<sup>68</sup> III, 78.

A prefix consisting of *d-*, the syllable completed by other elements, frequently occurs. No meaning has been discovered. It is, however, required by prefix *de-*, relating to fire, and *na-*, to be perpendicular.

- na del tca mûñ*, they shall eat. 85-5.  
*na del gal kwān*, he had poured in. 125-13. (Pl. 42, fig. 12.)  
*na des bîl'*, he sprinkled. 123-2. (Pl. 23, fig. 9.)  
*na de gûť tsan*, they heard again. 107-6.  
*na dic tca*, let me eat. (Pl. 24, fig. 12.)  
*na dōl 'a'*, pile up. 103-11.  
*na dōl 'a' būñ*, let stand on end. 108-3.  
*de dūñ 'ac*, you put on the fire. 131-9. (Pl. 23, fig. 15.)

*-he, -h-*. A prefix with *he-* or *h-* follows *ye'-* (*yī*), *in*, *na-*, *back*, and stands by itself. It has not been possible to assign any meaning for it.

- yī he 'ac*, take them in. 113-4.  
*ye heŁa*, come in. 143-1.  
*yī he dūŁ*, you go in. 97-10.  
*ya' hes giñ*, they carried it. 129-14.  
*nai hes 'añ*, they took it back. 107-10.  
*na hac gāt*, I will untie it. 79-1.  
*na hes le ge*, it swam along. 128-8.  
*na he sūn t ya de'*, if you go back. 137-10.  
*na he siŁ 'ûts kwāñ*, I ran back. 182-6.  
*na hūn das*, you go back. 120-12.  
*hi tes gin*, she carried them. 135-7.  
*ka hes di iñ'*, we will look. 173-17.

### *Second Modals<sup>50</sup>*

There are a few verbs which have the second modal prefixes throughout, but in the greater number they do not occur in the indefinite present. It is in these few present tenses without other prefixes that the force of these second modals is most clearly seen. It is quite clear in these forms that *n-* indicates completion, *s-* progression, and *g-* inception of the act or state. In the great majority of verbs one of these three prefixes is required in the definite or past tense; in most cases, in fact, it is by the presence of one of these second modals that the definite tense is distinguished from the indefinite. They are regularly used with

<sup>50</sup> Cf. Hupa *w-*, III, 95.

certain adverbial prefixes without much regard to their meaning.<sup>60</sup>

These second modals directly precede the subjective prefixes in the first and second persons and the third modals in the third person with which they form syllables. The progressive *s-*, however, may stand alone in the syllable, be joined to the stem, or close a syllable of which a first modal is the initial.

*g-*, in a few verbs seems clearly to have an inceptive force; in others it seems to occur regularly with certain adverbial prefixes with which its tie seems to be formal rather than logical.

*gi dūL*, we will go. 96-13.

*gūñ eL*, you carry. 137-13.

*gūc caL*, I walk. 163-10.

*ya' gūL gal*, he threw up. 142-3. (Pl. 23, fig. 1.)

*ye'te' gūn yai*, he went in. 132-13. (Pl. 23, fig. 2.)

*ta gūt t'ats*, he butchered. 175-4. (Pl. 24, fig. 2.)

*dje' gūL tcel*, she split open. 129-3. (Pl. 24, fig. 5.)

*kwūn ye' gūL lat*, it sank. 174-12. (Pl. 24, fig. 8.)

*kwūt te' gūn yai*, he went down. 116-5. (Pl. 24, fig. 9.)

*gūL tcat*, he shouted. 165-9. (Pl. 25, fig. 10.)

*gūn nes*, it became long. 87-1. (Pl. 25, fig. 8.)

*s-*. Verbs employing *s-* are usually of acts or states which continue for some time.

*sī da ye*, I sit. 140-7.

*sī ti ne*, I lie. 175-16.

*s gin*, it was. 138-18.

*stān*, lay. 176-18.

*stiñ*, lay. 100-2.

*sta*, he sits. 123-7.

*sūn da*, you live. 79-7.

*be nē sūL git de*, I am becoming afraid. 130-15. (Pl. 6, fig. 2.)

*bī' sta*, he was sitting in. 132-3. (Pl. 6, fig. 7.)

*te'ūs li'*, he caught in a noose. 108-4. (Pl. 1, fig. 6.)

*te'ūs qōt*, he speared it. 128-13. (Pl. 8, fig. 8.)

*ka sī del'*, we came up. 141-2. (Pl. 1, fig. 7.)

<sup>60</sup> Examples of all three of the second modal prefixes may be seen on v, 138. In line 14, *nī gī ne*, I bring, occurs without a prefix. In the next line it occurs in the same form with the prefix *nō*. In both of these the completion of the act is clear. In line 15 *g* occurs in *dō ha' ge gin*, she did not bring it in. The inceptive force is not particularly clear, but the statement may well mean that she did not begin the carrying. The following line has *s* and the stem without other prefixes, *s gin*, it was, and here the meaning is clearly that of remaining in position with no reference to the beginning or end of the act.

n-. Seems to be exactly parallel in its use with g- above, having however the opposite meaning, completion.<sup>61</sup>

- nī ya ye, I came there. 136-17. (Pl. 29, fig. 6.)  
 nī gī ne, I bring. 138-14. (Pl. 43, fig. 8.)  
 nō' 'ac, you (plu.) put it. 110-11. (Pl. 28, fig. 7.)  
 na nūñ 'ai, a fish-weir (it is across). 133-9. (Pl. 28, fig. 3.)  
 nō' 'ac, you (plu.) put it. 110-11. (Pl. 28, fig. 4.)  
 be nīl ke' e, I have finished. 78-14. (Pl. 23, fig. 12.)  
 te'n mōl yōl, let it blow. 80-13. (Pl. 30, fig. 11.)  
 te'n nūl kūt, they came. 154-12. (Pl. 45, fig. 6.)  
 te' nūn yai, he came there. 142-14. (Pl. 25, fig. 6.)

### *Subjective*

The subjective prefixes are, with some exceptions, those used with nouns and postpositions. They stand between the second and third modal prefixes. In the third person the subject is referred to, if at all, by deictic elements.

The first person singular has two prefixes. In the indefinite tense c- is used. It is evidently connected with cī, the independent pronoun.<sup>62</sup>

- ūc yīt, I will make a house. (Pl. 30, fig. 8.)  
 ūc tēl ōe, I cried. 140-6. (Pl. 8, fig. 6.)  
 ōc lāñ', I will get. 137-2. (Pl. 24, fig. 11.)  
 na ca', I go about. 133-6. (Pl. 35, fig. 10.)  
 nūc 'ī ne, I saw it. 137-1. (Pl. 28, fig. 10.)  
 bec 'ai', I will try it. 109-9. (Pl. 5, fig. 5.)  
 bec na', I will roast. 168-16. (Pl. 33, fig. 2.)  
 da'n dic ge', I will pick you up. 141-4. (Pl. 7, fig. 3.)  
 tūc ge', I will carry. 135-4. (Pl. 8, fig. 4.)  
 te'ic t'a tē le, I will feather arrows. 156-5. (Pl. 7, fig. 9.)  
 kwāc 'ī ne, I always do that. (Pl. 28, fig. 12.)  
 na hūc da, I will go back. 132-8.  
 na hūn dac, go back. 115-7.

The definite tense has the vowel ī, with no known connection with an independent pronoun form.<sup>63</sup>

- nī ya ye, I came there. 136-17. (Pl. 29, fig. 6.)  
 nī gī ne, I bring. 138-14. (Pl. 43, fig. 8.)  
 nō na nī kats', I fell back. 182-16. (Pl. 44, fig. 11.)  
 sī yī ne, I stand. (Pl. 25, fig. 7.)  
 sī tī ne, I lay. 175-16. (Pl. 39, fig. 9.)

<sup>61</sup> III, 95.

<sup>62</sup> Compare Hupa -iūw, -ūw, and -w, III, 97.

<sup>63</sup> III, 100.

- cô<sup>e</sup> gī la ce, I fixed it good. 76-12. (Pl. 31, fig. 5.)  
 dô yī he<sup>e</sup> e, I am tired. 98-1. (Pl. 36, fig. 6.)  
 be nē sīl get de, I am getting afraid. 130-15. (Pl. 44, fig. 3.)  
 te sīl tcōl<sup>e</sup>, I stole. (Pl. 42, fig. 1.)  
 sī tī ne, I lay. 175-16. (Pl. 39, fig. 9.)  
 stiñ, she lay. 100-2.

The first person dual and plural has a syllable immediately before the stem beginning with d. The vowel is the weak short ū followed by the third modal prefix when it is present, surd l becoming sonant. In its absence the initial of the stem is taken over.<sup>64</sup>

- nan dūl 'a<sup>e</sup>, we will make a dam. 163-11. (Pl. 28, fig. 1.)  
 na dūl yīc, let us rest. 140-18. (Pl. 30, fig. 5.)  
 dô yī de he<sup>e</sup> e, we are tired. 116-17. (Pl. 36, fig. 8.)  
 dô dūl sūs he, we did not see. 116-18. (Pl. 26, fig. 7.)  
 te'nō dūg ge<sup>e</sup>, we will put in water. 139-9. (Pl. 24, fig. 3.)  
 ka<sup>e</sup> dūt tca<sup>e</sup>, well, let us cook. 149-7. (Pl. 25, fig. 11.)

When the stem of the dual and plural is different from that of the singular, instead of the prefix d- the first person in all tenses has i-, not to be distinguished in sound from that found in the first person singular in the definite tense.

- bē dūl, let us climb. (Pl. 23, fig. 13.)  
 tī dūl, let us go. 141-6. (Pl. 38, fig. 2.)  
 ka sī del<sup>e</sup>, we came up. 141-2. (Pl. 1, fig. 7.)

The second person singular has -n, undoubtedly connected with the independent pronoun niñ, completing the syllable which precedes the stem. It appears to be dropped before the third modals l, r, and d.<sup>65</sup>

- ūñ qōt, spear it. 128-12. (Pl. 44, fig. 7.)  
 na nūn dac, come down (imp.). (Pl. 23, fig. 6.)  
 de dūn 'ac, put on the fire (imp.). 127-12. (Pl. 23, fig. 15.)  
 te'e nūn yac, come out (imp.). (Pl. 24, fig. 4.)  
 ūl tcī, make it. 79-8. (Pl. 41, fig. 8.)  
 nūn sūl gal, you hit. 129-10. (Pl. 42, fig. 8.)  
 te'ūl dūk, crack it. 138-2. (Pl. 38, fig. 8.)  
 k'wūn nūl lūc,<sup>66</sup> put it on. (Pl. 31, fig. 7.)  
 te'ūn yañ, you eat. 125-7. (Pl. 29, fig. 13.)  
 te'o' yañ, you (plu.) eat. 148-6. (Pl. 29, fig. 10.)

The prefix appearing in the second person dual and plural is

<sup>64</sup> III, 98.

<sup>65</sup> III, 98.

<sup>66</sup> n assimilated to the following l.

-ō', in which the aspiration is quite marked. The third modal *L* completes the syllable when present. In certain cases the vowel seems to be contracted, resulting in aspirated *a*.

- na te'ō' Lō, set snares. 108-2. (Pl. 25, fig. 5.)  
 n tō' lāL, go to sleep. 110-16. (Pl. 31, fig. 11.)  
 be cō' lōs, take me up. 147-6. (Pl. 6, fig. 1.)  
 ta te'ō' buL, make soup. 123-13. (Pl. 24, fig. 1.)  
 te'ō' yañ, you (plu.) eat. 148-6. (Pl. 29, fig. 10.)  
 ōL k'añ, make a fire. 103-7. (Pl. 3, fig. 7.)  
 na cōL na būñ, you must doctor me. 166-10. (Pl. 33, fig. 4.)  
 ne sōL yañ, you ate up. 136-16. (Pl. 24, fig. 10.)  
 te'n nōL t'as, cut them. 166-15. (Pl. 40, fig. 11.)  
 ō't gūc,<sup>67</sup> look at them. 164-9. (Pl. 25, fig. 13.)  
 na' be, swim. 111-2. (Pl. 36, fig. 9.)

### *Third Modals<sup>68</sup>*

ō.—When it is desired to convey a command or permission to a third person *ō* is found directly preceding the prefixes discussed below. By its logical limitation it can only be used in the third person.

- te'ō gāc, let him chew it. (Pl. 5, fig. 6.)  
 te'tōL k'as dja<sup>69</sup>, let him drop it. 129-8. (Pl. 10, fig. 4.)  
 te'ōL tci dja<sup>69</sup>, let him make. 140-2. (Pl. 27, fig. 6.)  
 n he ōL ka kwic, we will spend the night probably. 105-3. (Pl. 27, fig. 10.)  
 te'n nōL yōL, let it blow. 80-13. (Pl. 30, fig. 11.)  
 n tō lāL, let him sleep. (Pl. 31, fig. 8.)  
 ta ya<sup>69</sup> ō nañ, let them drink. 123-6. (Pl. 33, fig. 5.)  
 ō t yats, let it snow. 93-5.

A number of prefixes occur between the subjective prefixes and the stems. In the case of only one of these, *L*, is it ever possible to discover any meaning or force imparted by it. Certain stems seem always to be preceded by *t* or *d* and others by one of the other third modals.

It would seem that *L* in a few cases has a transitive force, since the same stems when they occur without it have intransitive meaning. In many other cases it is impossible to observe the transitive meaning because the real force of the stem itself is not apparent.

The stem -tāL, -tā<sup>69</sup>, referring to movement of the feet has

<sup>67</sup> *ō* is a prefix, see p. 52.

<sup>68</sup> III, 34.



L when transitive and is without it when used of walking or standing.

na ũn gũL tãL, he kicked out. 89-7.

nõ dũn tãL, you step. 82-1.

nõ t gũn tãL<sup>e</sup>, stood. 82-3.

The stem -tin, -tic, used of persons, animals, and things of animate origin, has L when transitive or when used of the dead or sick, but does not have L otherwise.

s'ũL tin, he sick lay down. 158-4.

nõL tiñ, he laid him down. 80-6.

stiñ, lay. 100-2.

nõ'tic, lie down (plu.). 96-13.

It seems impossible to distinguish fully between the use of L and l. The latter is used always in the first person plural and the former in the second person plural. This difference is almost certainly due to phonetic causes. Occasionally l seems to be used of the passive but it may be that these passives belong to a set of forms with l, neutral in force, that seem to exist for many or all verbs with L.

nõ wil k'as, fell. 152-1.

te' tũL k'as dja<sup>e</sup>, let him drop. 129-8. (Pl. 10, fig. 4.)

gũl k'an, a fire was. 108-2. (Pl. 45, fig. 10.)

gũlsan, it was found. 83-13.

But compare gũl tcať, they shouted. 114-3.

gũL tcať, they (elk) shouted. 165-9.

gũl tciñ, they made. 178-3.

gũL tciñ, were made(?). 162-3.

On the other hand, the many transitive verbs treating of the movement of objects classified by the stem as to shape and number, do not have L, except -tcõs, relating to flat flexible objects.

A number of Kato verb stems are always preceded by t. The iterative prefix, na-, requires t in the same position. It is possible that t also has an iterative force in all cases.

õ't gũc, look at them. 164-9. (Pl. 25, fig. 13.)

n hõc t ge<sup>e</sup>, let me see you. 142-6. (Pl. 43, fig. 2.)

wũn gũt t yac, some became old. 107-11. (Pl. 30, fig. 6.)

bũL te' gũt t yiñ, he doctored. (Pl. 30, fig. 3.)

dõ ha<sup>e</sup> ka nõn t yañ, do not be ashamed. 141-8. (Pl. 30, fig. 2.)

te t bil<sup>e</sup>, it rained. 81-1. (Pl. 36, fig. 13.)

te' õn t gets<sup>e</sup>, he looked at them. (Pl. 43, fig. 5.)

ye na gũt ya, he went again. 99-4.

te'e na gũt dac, he came up again. 149-13. (Pl. 10, fig. 6.)

When *L* and *t* (due to preceding *na*) both occur, the *L* precedes the *t*.

*na heL t kût*, they went back. 163-6.

*na gûl t bañ*, he limped along. 138-13.

#### STEMS

The verbal stems of Kato in many cases have two forms differing phonetically. The present usually has the shorter and weaker form.<sup>69</sup> In a number of cases the variation in the form of the stem is due to what appear to be reduced suffixes *-n*, *-l* and *-L*, and *-c*. It is possible that the glottal stop (ʔ) which seems in some cases to characterize the definite past is also a remnant of a suffix.<sup>69a</sup>

Some stems phonetically identical have no discoverable similarity in meaning. Since the complete verbs built upon these are usually quite different, no confusion arises. It is possible that a number of these could be shown connected in meaning if the history of the language were known.

*-ʔaiʔ*, *-ʔaʔ*, to have position.<sup>70</sup>

*bec ʔaiʔ*, I will try it. 109-9. (Pl. 5, fig. 5.)

*ka lʔaʔ*, it sprang up. 76-10. (Pl. 9, fig. 1.)

*Le ges ʔaʔ*, it was encircling. 82-15. (Pl. 23, fig. 5.)

*nai ʔai bûñ*, it will be across. (Pl. 23, fig. 8.)

*dî ʔûn es ʔaʔ*, up there in a row. 109-10. (Pl. 28, fig. 4.)

*-ʔañ*, *-ʔac*, to transport or give position to round objects.<sup>71</sup>

*de t gûn ʔañ*, he put in the fire. (Pl. 7, fig. 2.)

*nô ga ʔac*, he put along. 86-11. (Pl. 23, fig. 11.)

*de dûñ ʔac*, put on the fire. 127-12. (Pl. 23, fig. 15.)

*nôʔ ʔac*, put it (plural). 110-11. (Pl. 28, fig. 7.)

<sup>69</sup> These are discussed above, p. 18.

<sup>69a</sup> In many cases it is difficult or impossible to establish the exact form of the stem. There are several with endings *-c* and *-n* as *-tʔan* and *tʔac*, to shoot; *-tean* and *-tcic*, to leave. It seems probable that *-c* is a suffix. It may be that *-n* is also a suffix and that the stem ends in a vowel. If the *-n* belongs to the stem its disappearance before *c* would occasion no surprise. There are several stems, however, which have the simpler form occurring. In both Hupa and Kato the stem meaning to carry on the back has the forms: *-geʔ*, *-gûc*, *-geL*, *-gin* (Kato); *-we*, *-wûw*, *-weL*, *-wiñ*, *-wen* (Hupa).

<sup>70</sup> III, 203.

<sup>71</sup> III, 206. This is probably the stem above to which *-ñ* and *-c* are added.

**-al<sup>e</sup>, -al, to chew.<sup>72</sup>**

te' gún al<sup>e</sup> ya<sup>e</sup> ní, he chewed it they say. 109-7. (Pl. 26, fig. 4.)  
 na te' al, he was chewing. 143-3. (Pl. 41, fig. 5.)

**-atc, -ac, to walk, to crawl.<sup>73</sup>**

ta te'úl atc ē kwa nāñ, (turtles) have come out of water. 95-8.  
 túl ac búñ, (turtles) must walk. 121-4.  
 te't túl ac búñ, (crawfish) must walk. 121-4.

**-il, -il<sup>e</sup>, to sit (plural only).**

nō'il, you stay. 168-1.  
 te'nūñ il<sup>e</sup>, they sat down. 170-8. (Pl. 28, fig. 9.)  
 nō'il búñ, you must stay. 105-2. (Pl. 28, fig. 8.)

**-iñ<sup>e</sup>, to look.<sup>74</sup>**

n dūl iñ<sup>e</sup>, let us look. 168-1. (Pl. 3, fig. 3; pl. 28, fig. 11.)  
 kw nūl in<sup>e</sup>, he looked at him. 134-2. (Pl. 9, fig. 5.)  
 dō kō gis iñ<sup>e</sup>, one couldn't see. 81-1. (Pl. 24, fig. 13.)  
 ya te' kw nēl iñ<sup>e</sup>, they saw him. (Pl. 25, fig. 3.)  
 te'n ne gūl iñ<sup>e</sup>, he looked at it. 156-16. (Pl. 25, fig. 12.)  
 nec iñ<sup>e</sup> tē le, I will look. (Pl. 27, fig. 3.)  
 nūc i ne, I saw it. 137-1. (Pl. 28, fig. 10.)

**-iñ<sup>e</sup>, to do.<sup>75</sup>**

kwac i ne, I always do that. (Pl. 28, fig. 12.)  
 kwaL iñ<sup>e</sup>, you (plu.) do that. 113-4. (Pl. 28, fig. 13.)

**-úts, to run, to move aimlessly.<sup>76</sup>**

nas úts, he ran about. 134-3. (Pl. 29, fig. 1.)

**-úts, to shoot.<sup>77</sup>**

te úts, he shot along. 144-9.

**-yai, -ya, -yac, to go.<sup>78</sup>**

da bes ya<sup>e</sup>, he climbed up. 180-6. (Pl. 6, fig. 4; pl. 23, fig. 14.)  
 ye' te' gún yai, he went in. 97-11. (Pl. 10, fig. 9; pl. 23, fig. 2.)  
 te'e nūn yac, come out. (Pl. 24, fig. 4.)  
 kwút te' gún yai, he went down. (Pl. 24, fig. 9.)  
 te' nūn yai, he came there. 142-14. (Pl. 25, fig. 6.)  
 te' nūn ya hūt, when he came. (Pl. 26, fig. 6; pl. 29, fig. 8.)  
 te' tes yai, he went. 116-9. (Pl. 29, fig. 2.)  
 lūn tes yai, they came together. (Pl. 29, fig. 4.)  
 ca k'ēñ yai, sun went down. (Pl. 29, fig. 5.)  
 nī ya ye, I came there. 136-17. (Pl. 29, fig. 6.)

<sup>72</sup> III, 206.

<sup>73</sup> III, 209.

<sup>74</sup> III, 209.

<sup>75</sup> III, 211.

<sup>76</sup> III, 212.

<sup>77</sup> III, 211.

<sup>78</sup> III, 212.

-yal, relating to sleepiness. Used with person affected as object.

e gi yal, I am sleepy. 164-4. (Pl. 29, fig. 7.)

e gi ya lã, I am sleepy. 114-10.

-yan, -yac, -yaL, to grow, to become old.<sup>79</sup>

nes ya ni kwa nañ, it had grown.

wûn gât t yac, some became old. 107-11. (Pl. 30, fig. 6.)

kô wî yaL, they were growing. 88-15.

-yan, to like (used with possessive prefix and -dji<sup>e</sup>, heart).

dô kw dji yan, he didn't like. 91-7.

dô s tei kw yan ûñ gi, I don't like him. 142-16.

-yañ, to clear off.

niñ yañ kwañ ûñ gi, it has cleared off. 168-1. (Pl. 26, fig. 1.)

niñ yan de<sup>e</sup>, when it cleared off. 167-17. (Pl. 27, fig. 1.)

-yañ, to be ashamed.

dô ha<sup>e</sup> ka nôn t yañ, do not be ashamed. 141-8.

ka nô t yan, she was ashamed. 180-8.

-yan<sup>e</sup>, -yil<sup>e</sup>, to eat.<sup>80</sup>

ne sôL yan, you ate up? 136-16. (Pl. 24, fig. 10.)

te' gûn yan<sup>e</sup>, he ate of it. 129-5. (Pl. 29, fig. 9.)

te' ô' yañ, you (plu.) eat. 148-6. (Pl. 29, fig. 10.)

te'ûn yan, you (sing.) eat. 125-7. (Pl. 29, fig. 13.)

te' neL yil<sup>e</sup>, she eats up. 180-9. (Pl. 1, fig. 9.)

Cf. nes yi dja<sup>e</sup>, let me eat. 181-12.

-yats, to snow.<sup>81</sup>

ô t yats, let it snow. 93-5.

-yel<sup>e</sup>, to stop crying(?).

te't deñ yel<sup>e</sup>, he stopped crying. 148-4. (Pl. 29, fig. 14.)

-yeg, -ye', to make a deer drive.

te'n na dûl yeg, we will drive. 110-9.

te'n na dûl yeg, she always hunts. 181-7.

-yi, to name, to call by name.

te'ôL yi kwañ hât, he had named when. 117-12.

ôl yi bûn dja<sup>e</sup>, shall be called. 99-7.

-yiñ, to stand.<sup>82</sup>

sî yi ne, I stand. (Pl. 25, fig. 7.)

Cf. te' sîñ ûñ gi, he is standing. (Pl. 26, fig. 2.)

<sup>79</sup> III, 219.

<sup>80</sup> III, 217.

<sup>81</sup> Cf. yas, snow, III, 19.

<sup>82</sup> III, 220.

-yĩñ, to live at a place.<sup>83</sup>

nō nūn yĩñ, they lived. 160-12. (Pl. 29, fig. 12.)

-yĩc, yĩ, to speak. (First and second persons only).<sup>84</sup>

kūn nūc yĩc, I will speak. 120-9.

a dōc yĩ, I boast. 128-1.

kūn nūn yĩc, you will talk. 174-3.

kō nō' ic, speak (plu.). 120-8.

-yĩc, to break.<sup>85</sup>

te' gūn yic, he broke it. 79-12. (Pl. 10, fig. 3.)

-yĩc, to whistle.<sup>86</sup>

kwōL yic, he whistled. (Pl. 30, fig. 7.)

-yĩc, -yĩc, to rest.<sup>87</sup>

na dūL yic, let us rest. 140-18. (Pl. 30, fig. 5.)

na ges yĩc, he rested. 161-4. (Pl. 30, fig. 4.)

-yīt, yīk, -yīc, to build a house.<sup>88</sup>

ūc yīt, I will make a house. 168-6. (Pl. 30, fig. 8.)

s'ūs yī(k) c, he made a house. 168-7. (Pl. 30, fig. 9.)

gūL yīc ya' nī, he built a house they say. 83-11. (Pl. 30, fig. 10.)

-yōl, -yōL, yō, to blow.<sup>89</sup>

te'n nōL yōL, let it blow. 80-13. (Pl. 30, fig. 11.)

Cf. ō wī yō, she fanned. 153-3.

-yōs, to lead, to drag.

ye' kwil yōs, they took her in. 158-15.

-yot, -yō, -yōl, yōL, to chase.<sup>90</sup>

kwūn tin yōt, they ran after him. (Pl. 30, fig. 13.)

būn tī gī yō, they chased it. 174-10.

kwūn ī yōl, they followed him. 98-11.

na būn yōL, they drove. 170-16.

-lai, -la, -lāc, to move several objects.

ka na gūL lāc, she digs out. (Pl. 31, fig. 1.)

ū na' te'e na lai, her eye she took out. 152-9. (Pl. 31, fig. 2.)

k'wūn nūL lāc, put it on (sing. imp.). (Pl. 31, fig. 7.)

bel get k'wūn nō' lāc, spear points put on. 168-11. (Pl. 31, fig. 6.)

<sup>83</sup> III, 220.

<sup>84</sup> III, 246. See -nī, -n below, p. 65.

<sup>85</sup> Cf. Hupa -yeūw, to rub, to knead. III, 220.

<sup>86</sup> Cf. Hupa -yeūw, to rest, to get one's breath. III, 220.

<sup>87</sup> III, 220.

<sup>88</sup> See ye, yīk, house, p. 19.

<sup>89</sup> III, 221.

<sup>90</sup> III, 221.

-lal, -laL, to sleep, to dream.<sup>91</sup>

n tō laL, let him sleep. (Pl. 31, fig. 8.)

n tes laL ya<sup>c</sup> nī, he went to sleep they say. 83-4. (Pl. 31, fig. 10.)

nō hin n tō'laL, you (plu.) go to sleep. 110-16. (Pl. 31, fig. 11.)

ū nas laL, he dreamed about. 145-2.

-lañ, to laugh.

ya<sup>c</sup>s lan, they laughed. 155-2.

dō slañ, he did not laugh. 103-15.

-lañ<sup>c</sup>, to get.

ōc lañ<sup>c</sup>, I will get. 137-2. (Pl. 24, fig. 11.)

ō' lañ, you get. 133-14. (Pl. 1, fig. 4.)

-lat, to float.<sup>92</sup>

kwūn ye' gūl lat, it sank. 174-12. (Pl. 24, fig. 8.)

te'n nūl lat, it floated there. 148-1.

-lag, -la', -le', to do.<sup>93</sup>

kwai la' ya<sup>c</sup> nī, he did it they say. (Pl. 31, fig. 3.)

dī kwa<sup>c</sup> lag, he did this way. 154-5. (Pl. 31, fig. 4.)

cō<sup>c</sup> gī la ge, I fixed it good. 76-12. (Pl. 31, fig. 5.)

a cō<sup>c</sup> ūl le', dress yourself. 103-1.

-le<sup>c</sup>, to sing.

te'e lē<sup>c</sup>, he sang. 149-11. (Pl. 32, fig. 1.)

te'egūl le<sup>c</sup>, he commenced singing. 105-11. (Pl. 32, fig. 4.)

-leg, -le', to swim under water.<sup>94</sup>

na gūl leg, fish were swimming down. 164-1. (Pl. 32, fig. 2.)

wān nī le get, I swam to because. 175-5.

-lī<sup>c</sup>, to snare.<sup>95</sup>

te'ūs lī<sup>c</sup>, he caught in a noose. 108-4. (Pl. 1, fig. 6; pl. 32, fig. 7.)

nas lī<sup>c</sup>, he tied up. 145-7. (Pl. 32, fig. 6.)

-līñ, to flow.

na na gūl lī ne, it runs down. 121-9.

-līñ<sup>c</sup>, -le, to become.<sup>96</sup>

nas dūl līn ne, we have got back. 95-12. (Pl. 3, fig. 6.)

s'ūs līñ<sup>c</sup>, he became. 84-11. (Pl. 32, fig. 3.)

<sup>91</sup> III, 232.

<sup>92</sup> III, 232.

<sup>93</sup> III, 230.

<sup>94</sup> III, 237.

<sup>95</sup> Cf. Hupa -loi, to tie, III, 236.

<sup>96</sup> III, 233.

**-lō, to hail.**

ō lō, let it hail. 93-6.

**-lō, to deceive.**

te' kwL lō' ūt, when he fooled him. 136-14. (Pl. 26, fig. 5.)

skō lō ē kwāñ, he was pretending. 134-6.

**-lōs, to lead.<sup>97</sup>**

be cō' lōs, take me up. 147-6. (Pl. 6, fig. 1.)

gūl lōs tē le, he will bring it. (Pl. 32, fig. 9.)

te't te lōs, he led. 159-9. (Pl. 32, fig. 10.)

**-lūt, -Lūt, to burn (see Lūt, smoke).<sup>98</sup>**

ī gī lūt ūñ gī, we are burning. 104-13.

gūl lūt, it was burning. 173-16. (Pl. 32, fig. 8.)

nais Lūt, is burning? 119-6.

na' Lūt, you burn. 119-1.

Cf. de lūc, burns. 100-6.

**-lūts, to urinate.**

bī' ō' lūts, in it urinate. 138-14.

**-lūk, to tell, to relate.<sup>99</sup>**

wān te' kō lūk, he told about it. (Pl. 32, fig. 11.)

dō ha' wan kwūl lūk būñ dja', you must not tell him. 139-13.

**-La, to shoot.**

ō nō' La būñ, you must shoot. 173-4.

te La, he shot. 144-12.

**-Lañ, to be many.**

gūn Lañ, became many. 83-14. (Pl. 33, fig. 10.)

gūn La ne, have become many. 169-10. (Pl. 33, fig. 11.)

**-Lat, -La (-Lag?), to jump.<sup>100</sup>**

na nūn Lat, jump across (sing. imp.). (Pl. 34, fig. 3.)

te'e nan La, he jumped out. 142-6. (Pl. 34, fig. 4.)

na nūn La gūt, he jumped across when. 147-7.

**-Leg, Le', relating substances of dough-like consistency.<sup>101</sup>**

bī nō' Le', soak them. 110-6. (Pl. 34, fig. 1.)

bī' nō gūL Leg, they soaked them. 179-1. (Pl. 34, fig. 2.)

**-Lūts, to be rough, to be strong.**

n Lūts, it is stout. 78-12. (Pl. 34, fig. 5.)

<sup>97</sup> III, 237.

<sup>98</sup> III, 236, 239.

<sup>99</sup> III, 236.

<sup>100</sup> III, 238.

<sup>101</sup> III, 239.

-Lôi, -Lô, -Lôn, to twine a basket, to braid.<sup>102</sup>

te' Lôi ôfi gī, she is making a basket. (Pl. 2, fig. 7.)

na te'ô' Lô, set snares. 108-2. (Pl. 25, fig. 5.)

ô' Lô, braid. 113-3.

a de' te'ûs Lô kwān, he had girded himself. 103-3.

na t gût Lôn, he set snares. 108-4.

-na, relating to hunger. (It has the person affected as an object.)

e gī na<sup>e</sup>, I am hungry. 141-14.

e gī na e, I am hungry. 168-15.

-nai<sup>e</sup>, -na<sup>e</sup>, to roast.<sup>103</sup>

te'eL nai<sup>e</sup>, it is roasted. 113-15.

bec na<sup>e</sup>, I will roast. 168-16. (Pl. 33, fig. 2.)

te'geL na<sup>e</sup>, he roasted. (Pl. 33, fig. 1.)

-na(?)

nôL tin na<sup>e</sup>, were left. 158-10.

-nān, to drink.<sup>104</sup>

ta ya<sup>e</sup> ô nāñ, let them drink. 123-6. (Pl. 33, fig. 5.)

tai nān, drink. 88-6.

ta nān, he drank. 79-2.

-nac, -nai, -na, to go. (Third person only.)<sup>105</sup>

ka nac, it came up. 81-2. (Pl. 24, fig. 7.)

ka gūn nac, he came up. 75-2. (Pl. 33, fig. 8.)

ye gūn nac, went in. 165-15.

ye gī nai<sup>e</sup>, they went in. 107-17.

ye nī na, came in. 143-11.

-nat', to lick with the tongue.

te'ûL nat', licked. 103-14.

-nes, to be long.

gūn nes, it became long. 87-1. (Pl. 25, fig. 8.)

-nī, -ne, -n, -nec, -nīL, to speak.

he ũ<sup>e</sup> te'n nī, yes he said. (Pl. 33, fig. 9.)

te' te gūñ nī, it makes a noise, thundered. 77-10. (Pl. 33, figs. 6, 7.)

a dō' ne kwān nāñ, you talk. 166-9.

ya<sup>e</sup>n ya<sup>e</sup> nī, they said they say. 82-11. (Pl. 4, fig. 4.)

kwûL ũn ya<sup>e</sup> nī, he told him they say. 151-9. (Pl. 3, fig. 2.)

te' kûn nec, he talked. 160-1. (Pl. 25, fig. 14.)

dō kin nec, didn't speak. 141-16.

t gūn nīL, it kept hooting. 179-7.

<sup>102</sup> III, 239.

<sup>103</sup> III, 242.

<sup>104</sup> III, 243.

<sup>105</sup> III, 242.



**-níc, to play.**<sup>106</sup>

na gô' níc, you played with. 134-17.

na gûs níc kwân, he had been playing. 115-10.

**-nûk, to relate.**

wûn kw nûk de', you tell about when. 176-2.

**-sas, to pull, to drag.**

ta nas sas, he pulled it out. 132-7.

tat dâl sâs, we dragged out. (Pl. 35, fig. 6.)

**-sat, to be deep.**

kwûn sât, deep water. 74-10. (Pl. 34, fig. 11.)

**-sat, -sât, to sit.**

nûn sât, sit down. 140-18. (Pl. 34, fig. 10.)

na nô' sât, you (plu.) camp. 173-7.

**-sî', relating to one's head and its position.**

be t gûn sî', had her head close. 152-3.

t gûn na sî', turned heads. 165-12.

**-sîl, to steam(?)**<sup>107</sup>

nê sîl, I am sweating. (Pl. 35, fig. 1.)

**-sîl', -sûl, -tsûl, to strike (repeatedly).**<sup>108</sup>

na neL sîl', it struck. 162-11.

kwûn ye te'ûl sîl, it pounded into the ground. 154-10.

ôL sûl, peck. 113-9.

nûn yîl tsûl, beats against it. 86-12.

**-sô(?)**

nô te gûl sô, she pushed in. 153-3.

**-sûl, -sûl, to be warm.**<sup>109</sup>

kô wûn sûl, it was becoming hot. 81-2. (Pl. 1, fig. 5.)

gûn sûl le, is hot. 149-7.

gûn sûl, it became warm. 96-4.

**-sûñ, to think. (First and second person.)**

dô kw ne sûñ, I was insensible. 182-17. (Pl. 35, fig. 5.)

nô nûc sûñ ât, I thought you. 171-6.

**-sûn, to hide.**

be nô' sûñ, you (plu.) hide it. 113-4. (Pl. 35, fig. 3.)

be nôñ sûn kwañ ûñ gî, you were hiding it. 101-10.

be nô gûs sûn, she hid. 135-11.

<sup>106</sup> III, 247.

<sup>107</sup> III, 253.

<sup>108</sup> Cf. -sût, to pound.

<sup>109</sup> See -sîl above. III, 253.

-sũñ, -sũs, to hang, or to be hanging.

te' tal sũñ, he hung up. 176-18. (Pl. 35, fig. 4.)

nal sũs, hanging. 176-16.

-sũs, to see.<sup>109a</sup>

cũl sũs e, (nobody) sees me. 176-1.

dõ dũl sũs he, we did not see. 116-18. (Pl. 26, fig. 7.)

-sũt, to fall.<sup>110</sup>

nũl sũt, he fell. 147-8.

te' tal sũt, he fell. 147-7.

-sũt, to pound.<sup>111</sup>

ũs sũt, I will pound. 110-3. (Pl. 35, fig. 8.)

k' gũn sũt, she pounded. 135-9. (Pl. 35, fig. 9.)

-sũt', to wake up.<sup>112</sup>

tee' sũt, wake up. 100-9.

te'e'n sũt', woke up. 134-13.

-ca<sup>e</sup>, -cac, to go. (First person only.)<sup>113</sup>

na ca<sup>e</sup>, I will go about. 133-6. (Pl. 23, fig. 7.)

nan ca<sup>e</sup>, I will cross. 154-1.

ta cac, I went. 182-17.

-ca', to catch with a hook.<sup>114</sup>

gũs ca', they caught. 158-8.

-ce', to spit.<sup>115</sup>

k'wũt te'e ya ce', they spit on. 154-14. (Pl. 35, fig. 12.)

-cĩn<sup>e</sup>, -cũn<sup>e</sup>, to be black.

et cĩ nẽ kwũn nũñ, it had turned black. 94-7. (Pl. 3, fig. 1.)

nl cũn<sup>e</sup>, black. (Pl. 36, fig. 2.)

-cĩ<sup>e</sup>, to dig.<sup>116</sup>

ka te' gũe cĩ<sup>e</sup>, they dug. 148-11. (Pl. 35, fig. 13.)

ka te' gũn cĩ<sup>e</sup>, they were digging. 148-8. (Pl. 35, fig. 14.)

ka ya<sup>e</sup> cĩ<sup>e</sup>, they dug. 148-12.

-cõñ, to be good, to be good looking.<sup>117</sup>

n cõ ne, it is good. 79-4.

n cõñ ãñ gĩ, it is beautiful. 100-5.

<sup>109a</sup> See Hupa -tsis. III, 272.

<sup>110</sup> Hupa -tsit. III, 273.

<sup>111</sup> Hupa -tsit, III, 272.

<sup>112</sup> III, 253.

<sup>113</sup> Hupa -hwai, -hwa, -hwanw, III, 248.

<sup>114</sup> Hupa -hwal, -hwal, III, 248.

<sup>115</sup> Cf. cek, spit.

<sup>116</sup> Hupa -hwe, III, 249.

<sup>117</sup> Hupa, -hwõñ, III, 201.

-he<sup>e</sup>, to be tired (but only when used with a negative prefix).

dō yī he<sup>e</sup>, I am tired. 98-1. (Pl. 36, fig. 6.)

nīf dōñ he<sup>e</sup> ãñ, are you (sing.) tired? 141-1. (Pl. 36, fig. 7.)

dō yī de he<sup>e</sup>, we are tired. 116-7. (Pl. 36, fig. 8.)

-ba, to be thirsty.

ta gī ba, I am thirsty. 141-10.

t gī ba e, I am thirsty. 118-4.

-bañ, to walk lame.

te't teL bañ, he walked lame. 133-6. (Pl. 24, fig. 14.)

nae ba ñe, I am lame. 133-8.

na gūl t bañ, he limped along. 138-13.

-bat, -bac (-bûc), to embrace(?).

be te' ma dût, he embraced it when. 131-2.

da kit dûl bûc, he embraced it. 180-3.

-be<sup>e</sup>, to bet.

te'ûe be<sup>e</sup>, I bet. 146-12.

-be, -bîl<sup>e</sup>, to pick.

ya<sup>e</sup> te' bô, they were picking. (Pl. 36, fig. 10.)

ya<sup>e</sup> k' tō bîl<sup>e</sup>, they went to gather. 152-5.

ya<sup>e</sup> te' be dūñ, they were picking where. 120-6.

ka gūm me, he gathered. 76-4.

-be, -bîn, -bîc, to swim.<sup>118</sup>

nō hin na' be, swim (plu. imp.). 111-2. (Pl. 36, fig. 9.)

nī bî ne, I swam. 118-17.

na nō' bîc, swim across. 96-11.

tûm mîc, swim. 118-16.

-bîl<sup>e</sup>, -bûl, -bûL, to fall, to rain (plural object).<sup>119</sup>

te t bîl<sup>e</sup>, it rained. 81-1. (Pl. 36, fig. 13.)

ya<sup>e</sup> ga bîl<sup>e</sup>, they threw over. 149-8.

kw na s'is bîl<sup>e</sup>, he sprinkled around him. 80-6.

cōñk tût bûl, good it rains. (Pl. 36, fig. 12.)

ce nan t bûL, come to me again. 143-8.

-bûL, to handle flour(?).

ta te'ûm mûL, cook mush (sing. imp.). 163-14. (Pl. 6, fig. 8; pl. 37, fig. 5.)

ta te'ô' bûL, cook mush (plu. imp.). 123-13. (Pl. 24, fig. 1; pl. 37, fig. 6.)

-bûL, to hang up.

te't teL bûL, he hung it up. 79-13. (Pl. 37, fig. 2.)

tûc bûL, I will hang up. 115-6. (Pl. 37, fig. 3.)

te' teL bûL kwăñ, he had hung up. 176-3. (Pl. 27, fig. 8.)

<sup>118</sup> Hupa -me, -men, III, 240.

<sup>119</sup> Hupa -meL, -mil, -mîL, III, 240.

**-bûn, to be small (†).**

dō bûn nē kwa nāñ, were small. 95-6.

ya<sup>e</sup> dō mûñ, they became small. 107-12.

**-bûñ<sup>e</sup>, to be full.<sup>120</sup>**

dē mûñ<sup>e</sup> (din bûñ<sup>e</sup>), it was full. 129-12. (Pl. 37, fig. 1; pl. 6, fig. 6.)

L te mûn<sup>e</sup>, were full. 82-14.

dō te bûn ne, is not full. 149-6.

tes dūl bûñ, we filled. 182-2.

**-da, -dai, to sit, to remain.<sup>121</sup>**

sûn da, you stay (sing. imp.). 79-7. (Pl. 37, fig. 7.)

bī<sup>e</sup> sta, he was sitting in. 132-3. (Pl. 6, fig. 7.)

sī dai, I sit. 140-7.

te'n nes dai, he sat down. 161-10. (Pl. 37, fig. 8.)

**-dai, to be exhausted (†).**

dō teō<sup>e</sup> dai, he didn't give out. 126-12.

**-dac, to travel.<sup>122</sup>**

te'e na gūt dac, he came up again. 149-13. (Pl. 10, fig. 6; pl. 37, fig. 10.)

yaL dac bûñ, you must jump up. 82-16.

**-dac, to dance.**

nûc dac, I will dance. 103-9. (Pl. 37, fig. 9.)

te' gûn dac kwāñ, he had danced. (Pl. 37, fig. 11.)

**-del<sup>e</sup>, -dûl, to go (dual only).<sup>123</sup>**

te'n nûn del<sup>e</sup>, they came up. 158-6. (Pl. 37, fig. 13.)

ka sī del<sup>e</sup>, we came up. 141-2. (Pl. 1, fig. 7; pl. 37, fig. 12.)

te't tes dē le, they went on. 108-12. (Pl. 38, fig. 1.)

bē dūl, let us climb. (Pl. 23, fig. 13.)

tī dūl, let us go. 141-6. (Pl. 38, fig. 2.)

**-del<sup>e</sup>, -del, -dûl, to handle objects (plural).**

dē t gûl del<sup>e</sup> kwāñ, had put in the fire. 131-7.

da nōl dēl kwāñ, he had put on a frame. 135-4.

ta ya il dūl, she put in water. 143-4.

**-deg, -de', to win.**

na<sup>e</sup> te'ûs deg, he won back. 147-1.

na<sup>e</sup> te'ûs de', he won back. 146-14.

kō wān te' gûl de', from him he won. 146-8.

<sup>120</sup> Hupa -men, -miñ, III, 241.

<sup>121</sup> III, 254.

<sup>122</sup> Cf. -daww, III, 255.

<sup>123</sup> III, 256.

**-deg, -de', to wash.**

te' na te'ús dēg, he washed it. 129-2.

te' na te'gūL de', she washed them. 153-5. (Pl. 38, fig. 3.)

te' na te'ús de, he washed it. 168-16.

**-dĩñ, to shine.<sup>124</sup>**

tein ús dĩñ, shone. 85-9.

na te' nūn dĩn bũñ, it will be light. 140-4.

cān dĩ ne, the sun shines. 182-13. (Pl. 38, fig. 4.)

**-dō, to be none.<sup>125</sup>**

n dō bũñ, it will not be. 80-13. (Pl. 38, fig. 5.)

nūt dō, all gone. 99-11.

n dō ye, there is none. 109-1. (Pl. 38, fig. 6.)

**-dūl, -dūL, relating to the movement of fish in numbers.**

nūn dūL, they came. 169-8.

tān dūL, come. 120-17.

tān dūL bũñ, must come. 120-18.

**-dūL, to move something up and down (†).**

na nail dūL, he moved (a basket) up and down. 150-2.

**-dūn, to die.**

ne' ō dūn, you will die. 177-4. (Pl. 25, fig. 2.)

ce dūn ne, I died. 128-4. (Pl. 38, fig. 7.)

ce e dūn tō le, I will die. 177-5. (Pl. 38, fig. 9.)

**-dūts, -dūs, to twist.**

gūt dūts, is twisted. 114-1.

**-dūk, to crack (acorns).**

te'ūc dūk e, I crack them. 140-4.

te'ūL tūk, crack them. 138-2.

te'ūL tūk bũñ, you must crack. 136-1.

**-djiñ, to be day.**

ō djiñ kwie, about day probably. 134-1.

**-djöl, to roll.**

tān nas djöl, it rolled out of the fire. 147-9. (Pl. 10, fig. 1; pl. 41, fig. 3.)

**-tal, täl, to step or move the foot.<sup>126</sup>**

te' te'gūn tal, he stepped in water. (Pl. 38, fig. 10.)

nō dūn täl, you step. 82-1.

te't te'gūL täl, he dragged his foot along. 90-4.

<sup>124</sup> III, 260.

<sup>125</sup> Cf. dō, not, the negative prefix.

<sup>126</sup> III, 261.

- təñ*, -*tīc*, to handle a large object.<sup>127</sup>  
*te'en təñ*, he took out (spear-shaft). 170-14.  
*nō wən tic būñ*, give us (fish-spear). 128-13.
- tan*, to eat (third person only).<sup>128</sup>  
*te't tan ūñ gī*, he is eating. 174-1. (Pl. 38, fig. 11.)
- te*, to look for anything.<sup>129</sup>  
*ka kw nō' te*, look for him. 160-1. (Pl. 39, fig. 1.)  
*ka ūñ tō*, she looked. 114-9.  
*ka ya' n tō*, they looked. 114-8.
- tel*, -*teL*, to be wide or flat.  
*n tel*, flat. 180-14.  
*kwūn tel tē lit*, it was becoming flat. 107-3. (Pl. 27, fig. 2.)  
*gūn tel*, was flat. 106-11.  
*te'ūc tel kwən*, he had spread. 115-11.
- teg*, to teach(?).<sup>130</sup>  
*be gūn teg*, he taught. 122-11. (Pl. 39, fig. 3.)  
*ke gūt t'eg*, he taught them. 122-1.
- tin*, -*tūc*, relating to movement or position of an animal alive or dead, with transitive or intransitive meaning.<sup>131</sup>  
*nes tiñ*, it is lying. 182-3. (Pl. 39, fig. 5; pl. 10, fig. 7.)  
*nūn s'ūs tiñ*, he picked him up. 179-14. (Pl. 39, fig. 7.)  
*tən nas tiñ*, she took out again. 129-2. (Pl. 39, fig. 8.)  
*eī sī tī ne*, I lay. 175-16. (Pl. 39, fig. 9.)  
*nō nūl tī ne*, he put it. (Pl. 39, fig. 10.)  
*te' nes tiñ*, he lay down. 175-11. (Pl. 5, fig. 2.)  
*ūl tūc*, give it. 179-2.  
*na nūn tūc*, lie down again. 100-1.  
*dō e gəl tūc*, you did not give it to me. 179-5.
- tō'*, relating to position or movement of water.<sup>132</sup>  
*nō te'ūn tō'*, water came so far. 75-1. (Pl. 7, fig. 6.)
- tōñ'*, to jump or to cause to jump.<sup>133</sup>  
*na te'ōl tōñ'*, he snapped it. (Pl. 39, fig. 11.)
- tūñ*, -*te*, to be cold.  
*ūs tūñ*, it was cold. 96-1.  
*ūs tūn e*, it is cold. (Pl. 40, fig. 3.)  
*kō wūn tūn*, it is cold. 121-10.  
*ūc te h' ūñ*, I might be cold(?). 133-8.

<sup>127</sup> III, 262.<sup>128</sup> III, 263.<sup>129</sup> III, 264.<sup>130</sup> Cf. Hupa -*tū*, -*te*, -*tel*, to sing, in a ceremony. III, 267.<sup>131</sup> III, 264-6.<sup>132</sup> Cf. *tō*, "water," p. 20, and III, 267.<sup>133</sup> III, 267.

-tûk, to burst.

gûL tûk, it burst. 182-5. (Pl. 8, fig. 1; pl. 40, fig. 1.)

-tûk, to kill.<sup>124</sup>

s dji ôL tûk, kill me (plu.) "my heart(?)" 151-8. (Pl. 40, fig. 4.)

-t'a, to use a sling.

na kw nie t'a kwie, I am going to sling at him. 122-14. (Pl. 40, fig. 9.)

-t'an, relating to wax-like substances.<sup>125</sup>

k'we ya<sup>e</sup> heL t'añ, they stuck on. 170-6.

-t'ats, -t'as, to cut.<sup>126</sup>

yis t'ats, he cut it. 162-10.

ta gûL t'ats, he butchered. 175-4. (Pl. 24, fig. 2.)

te'n ne sîL t'ats, I cut it up. 138-15. (Pl. 40, fig. 12.)

te'n nôL t'as, cut them (plu. imp.). 166-15. (Pl. 40, fig. 11.)

-t'ag, -t'a', to fly.<sup>126a</sup>

nûn t'ag, it flew. 182-11. (Pl. 40, fig. 6.)

te'ic t'a tôle, I will feather. 156-5. (Pl. 7, fig. 9; pl. 40, fig. 5.)

-t'e, to have an appearance or disposition.<sup>127</sup>

ac t'ë, I am. 159-10.

a nô<sup>e</sup> t'e, you are. 139-1.

an dât t'ë ye, we are. 132-5.

an t'ë, it is. 100-10.

kûn t'ë, she is like. 181-11.

-t'e, to cook.

tôL t'e, you cook (plu. imp.). 167-16. (Pl. 40, fig. 10.)

ûs t'e ye<sup>e</sup>, it is cooked. 163-15. (Pl. 40, fig. 8.)

-t'iñ, to do.<sup>128</sup>

dô kwa t'iñ, he never did that. 130-14. (Pl. 9, fig. 4.)

kwac t'iñ, I did that. 147-5.

-t'ôt, to suck.<sup>129</sup>

k'ûL t'ôt, he sucked it. 159-2. (Pl. 40, fig. 2.)

te'il t'ôt, (make) it suck. 115-3.

-t'ôg, -t'ô', to sting.

na te'eL t'ô, she stung. 156-14.

nûn yîL t'ô gûL, she stung them when. 156-15. (Pl. 26, fig. 3.)

te't dûL t'ô' kwûe, something stung I guess. 114-14.

<sup>124</sup> Cf. -tûk, to burst.

<sup>125</sup> III, 268.

<sup>126</sup> III, 268.

<sup>126a</sup> Cf. t'a<sup>e</sup>, feathers, and Hupa -tau, III, 268.

<sup>127</sup> III, 268.

<sup>128</sup> III, 269.

<sup>129</sup> Cf. Hupa -tôt, to drink, to suck. III, 267.

-t'ók', to flake flint.

te'ús t'ók', he flaked. 156-7. (Pl. 11, fig. 8.)

-tsai, -sai, to be dry.<sup>140</sup>

ól sai dja<sup>c</sup>, let them dry. 136-3.

gûl tsai, it was dry. 123-4. (Pl. 34, fig. 8.)

te'ús sai, she dried it. 181-4.

-tsan, -sañ, to find, to see.<sup>141</sup>

te'ûl tsan, he found. 97-4. (Pl. 34, fig. 6.)

dō ha<sup>c</sup> te'ûl tsa ne, he did not find. (Pl. 34, fig. 7.)

ûl sañ, do you see? 141-2.

dō gûl sañ, it was never found. 179-6. (Pl. 34, fig. 9.)

-tsañ, to hear.

ôe tsañ, I heard. 182-8.

ya<sup>c</sup> teō sûl sañ, they listened. 178-1.

-tsō, to be blue.

dâl tsō, blue. 113-13. (Pl. 35, fig. 2.)

-tsût, to know.

dō ô dâl tsût de, we didn't know him. 119-8.

-ts'eg, -ts'e', to eat soup.

k gûl ts'eg, he ate soup. (Pl. 41, fig. 1.)

-ts'eg, -ts'e', -s'ûl (-ts'î<sup>c</sup>), to hear.

na ya<sup>c</sup> dî ts'eg, they heard again. 106-16.

ka nał ts'î<sup>c</sup>, they heard again. 106-14.

-tcai, -tea, to bury, to cook by burying.<sup>142</sup>

te' gûn tcai, he buried it. 129-2.

ka<sup>c</sup> dût tea<sup>c</sup>, well, let us cook. 149-7. (Pl. 25, fig. 11.)

be te gûl ca<sup>c</sup>, she put in sand. 152-8.

-tcan, to eat in company.<sup>143</sup>

na dâl tcañ kwañ, he had eaten. (Pl. 41, fig. 4.)

na dic tcan ne, I ate. 171-9. (Pl. 41, fig. 6.)

na dic tca, let me eat a meal. (Pl. 24, fig. 12.)

-tcañ, to defecate.<sup>144</sup>

ts' gûn tcañ, he defecated. 142-7.

<sup>140</sup> III, 270.

<sup>141</sup> III, 270.

<sup>142</sup> Hupa -tewai, -tewa, III, 275.

<sup>143</sup> Hupa, -tewan, -tewûñ, III, 275.

<sup>144</sup> Cf. Hupa -tewen, -tewiñ, III, 278.



-tean, -teic, to leave one.

ō teō nō'teie būñ, you may leave it. 118-1.

dō teōs teic tō le, I will not leave. 139-18.

ō tsōñ gūt tcañ, they left them. 178-11.

ō te'ō nī tea ne, I left him. 117-17. (Pl. 41, fig. 10.)

-teat, -tea, to be sick.<sup>146</sup>

t gūn tea de, is sick. 140-5.

dūn tea būñ, will be sick. 79-5.

-teat, -teat, to shout.

gūL teat, they shouted. 165-9. (Pl. 25, fig. 10.)

ūe teat, I will shout. 164-12.

ūL teat, shout. 164-13.

gūL teat, they shouted. 114-3.

-teag, -tea', to be large.<sup>146</sup>

gūn teag kwān, had become large. 116-4.

ō tea', let be large. 93-7.

wō' n tea', teeth large. 86-5. (Pl. 4, fig. 2.)

-tee', -ce', to be bad.<sup>147</sup>

n tee' e, bad. 140-18.

dō ha' n tee' mūn dja', let it not be bad. 171-10.

-teel' (?), -teūL (-teel), to split.<sup>148</sup>

dje' gūL teel, she split open. 129-3. (Pl. 24, fig. 5.)

gūL teūL, were opened. 125-6.

dje' kūL teūL, split it. 80-9.

dje' gūL teel, he split open. 129-3.

-teeg, -tee', (-ce'), to cry.<sup>149</sup>

te' gūn tee ge, he cried. 133-1. (Pl. 41, fig. 11.)

ūe tei ge, I cried. 140-6. (Pl. 8, fig. 6.)

ūn tee' būñ, you may cry. 115-7.

dō ha' kw ūn ce', do not for it cry. 117-8.

-tei, to blow, said of the wind.<sup>150</sup>

wa nūn tei būñ, it will blow through. 80-14. (Pl. 23, fig. 4.)

-tei', to be red, to dawn.

te' t te gūs tei', it was about dawn. (Pl. 8, fig. 2.)

te' gūs tei', it was red. 148-5.

<sup>146</sup> III, 274.

<sup>146</sup> Cf. Hupa -kya ō, -kya, III, 201.

<sup>147</sup> Cf. te'ūñ gūn tee', he was angry. (Pl. 41, fig. 13.)

<sup>148</sup> Cf. Hupa -kil, -kil, III, 282.

<sup>149</sup> Hupa -tewū, -tewe, III, 280.

<sup>150</sup> Hupa -tee, III, 274.

-tcin, -tcī, -tcīL, to make.<sup>151</sup>

ûL tcī, make it. 79-8. (Pl. 41, fig. 8.)

te' gûL tcī, it is growing. (Pl. 41, fig. 9.)

kw na' ûL tcī, make him live. (Pl. 10, fig. 2.)

te'ôL tcī dja', let him make. 140-2.

gûL tcīñ, they made. 178-3.

ya' heL tcin, they made. 170-4.

te'is tcin, he made. 77-6.

gie tcīL, I place along. 88-1.

-tcōs, relating to flat, flexible objects, such as skins.<sup>152</sup>

naL tcōs, she put. 180-7.

c gaL tcōs, give me. 97-13.

-tcōt, -tcōl, to steal.

k't taL tcōt, he stole. 118-11. (Pl. 9, fig. 6.)

cī te sūL tcōl', I stole. (Pl. 42, fig. 1.)

-tcōk (-cūk), to arrange in a row, to string.<sup>153</sup>

te' gûn tcōk kwān, he had filled. 159-6.

te' gûn cūk kwān, he had strung. 135-1.

-tcûl, -tcûL, to be wet or damp.

na gûL tcûL ya' nī, he got wet they say. 126-16. (Pl. 42, fig. 3.)

naL tcûl út, it was wet because. 126-11.

-tcûn, -tcīc, to smell.

ye gûn tcûn, he smelled it. 114-4.

gûL cûn ne, it smells. 109-6.

sûL tcīc, you smell. 141-5.

-tcût, -tcī, to catch hold of.<sup>154</sup>

yīL tcût, caught it. 114-4.

gûL tcût, he caught them. (Pl. 42, fig. 2.)

te'eL tcī' ya' nī, he caught it they say. 142-5. (Pl. 42, fig. 5.)

naL tee būñ, you must catch. 116-16.

-tcût', to feed.<sup>155</sup>

kū wa gût tcût', they fed her. 151-15. (Pl. 36, fig. 4.)

-tcût, to stretch.

nûL tcût, you stretch. 78-15.

te'eL tcût, stretch it out. 77-13. (Pl. 42, fig. 4.)

<sup>151</sup> Hupa -tewen, -tewīñ, -tewe, III, 276.

<sup>152</sup> Hupa -kyōs, III, 284.

<sup>153</sup> Hupa -tewōk, III, 279.

<sup>154</sup> Hupa, -kit, III, 283.

<sup>155</sup> Hupa -kit, III, 283.

- te'añ*, -*te'ac*, to shoot with a bow.  
*s'ús te'añ*, he shot it. (Pl. 41, fig. 7.)  
*gút te'añ*, he shot. 110-13. (Pl. 25, fig. 9.)  
*ún te'ac*, you shoot. 178-1.
- ga*, -*gai*, to walk (third person only).<sup>156</sup>  
*na ga kwān*, he had walked. 154-12. (Pl. 42, fig. 6.)  
*na gai būn dja*, shall travel. 99-13.
- gal*, -*gal*, -*gal*, to throw.<sup>157</sup>  
*nō tel gal*, she threw it. 181-4.  
*ka te'el gal*, he tipped it. 154-3.  
*k'e gūL gal*, she threw away. (Pl. 42, fig. 11.)  
*na' del gal kwān*, he had poured. 125-13. (Pl. 42, fig. 12.)  
*ya' gūL gal*, he threw up. 142-3. (Pl. 23, fig. 1.)  
*na nōL gal*, put across. 153-18.  
*nō' cūL gal*, throw me. 133-4. (Pl. 25, fig. 1.)
- gal*, -*gal*, -*gal*, to drop, to beat.  
*nañ gūL gal*, he beat it. 177-6.  
*nūn ie gal*, let me chop. (Pl. 42, fig. 7.)  
*nūn sūL gal*, you hit. 129-10. (Pl. 42, fig. 8.)  
*naL gal*, hit again. 177-7.
- gan*, to be mouldy.  
*te't gañ*, it is mouldy. 167-16. (Pl. 42, fig. 9.)
- gan*, -*gal*, to kill (with plural object).  
*ūc gañ*, I kill? 96-10.  
*ō' gañ*, kill. 113-6.  
*te' gūñ ga ne*, he was killed. (Pl. 42, fig. 10.)  
*te'e nō' nūñ a ne*, he killed us. (Pl. 25, fig. 4.)  
*nai gī gal būñ*, must kill. 173-2.
- gac*, to chew.  
*te'ō gac*, let them chew it. (Pl. 5, fig. 6.)  
*yō gac*, let him chew them. 110-7.
- gat*, to sew.  
*te'e naiL gat de*, he sewed up. 122-13. (Pl. 44, fig. 5.)  
*nō na'ñ fāt*, he untied it. 122-15. (Pl. 44, fig. 6.)  
*na he gat*, he loosened. 122-14.  
*na hūñ a būñ*, you must untie it. 78-15.  
*na hūñ at*, you untie. 123-7.
- gats*, -*gas*, to scrape.<sup>158</sup>  
*ō' gas*, scrape. 113-7.  
*te' ge gats*, she scraped them. 153-5.

<sup>156</sup> Hupa -*wai*, -*wa*, III, 221.

<sup>157</sup> Hupa -*waL*, -*wūL*, -*wūL*, III, 222.

<sup>158</sup> Cf. Hupa -*was*, III, 224.

-ge<sup>e</sup>, to whip.

ôL ge<sup>e</sup>, whipped? 102-9.

-gel<sup>e</sup>, -geL, -gûl, relating to the passing of night.<sup>150</sup>

gûl ge le, it was getting late. (Pl. 43, fig. 1.)

tea kwôL gel<sup>e</sup>, very dark. 127-3. (Pl. 2, fig. 4.)

ûL gûl, evening. 82-9.

-get, to thunder.

dô nai t get, it didn't thunder. 74-4.

-get, -ge, to spear.<sup>150</sup>

wai te' gûn get, he struck over. 164-2.

ya<sup>e</sup> te' ôfi ge, they speared. 166-16.

-gets, -gûc, -ge<sup>e</sup>, to look, to see.

n hōc t ge<sup>e</sup>, let me see you. 142-6. (Pl. 43, fig. 2.)

te'ô na gûc gûc, he looked back. 87-13. (Pl. 43, fig. 4.)

te'on t gets<sup>e</sup>, he looked at them. (Pl. 43, fig. 5.)

ô' t gûc, look at them. 100-9. (Pl. 25, fig. 13.)

ôn t gûc. look. 95-12.

-gîñ, to kill.<sup>151</sup>

sel gîñ ya<sup>e</sup> nî, he killed they say. (Pl. 43, fig. 10.)

-gin, -gûc, -ge<sup>e</sup>, -geL, to carry on the back.<sup>152</sup>

te' nō dūg ge<sup>e</sup>, we will put in water. 139-9. (Pl. 7, fig. 5; pl. 24, fig. 3; pl. 43, fig. 6.)

te'n nūg gûc, she brings in. 180-9. (Pl. 43, fig. 7.)

nî gî ne<sup>e</sup>, I bring. 138-14. (Pl. 43, fig. 8.)

te'n nūfi fiñ, he brought it. 135-11. (Pl. 43, fig. 9.)

da n dic ge<sup>e</sup>, I will pick you up. 141-4. (Pl. 7, fig. 3.)

tûc ge<sup>e</sup>, I will carry. 135-4. (Pl. 8, fig. 4.)

te't tes gîñ, he carried. 101-9.

gûc geL, I will carry. 141-1.

gûñ eL, you carry. 137-13.

-git, -gûc, to be afraid.<sup>153</sup>

be nē sîL git de, I am getting afraid. 130-15. (Pl. 6, fig. 2; pl. 44, fig. 3.)

wûn ye nel git, they were afraid of it. 154-6.

wûn tōL gûc ôfi, might be frightened. 99-15.

-gîts, to tie.

le gîts<sup>e</sup>, he tied together.

teâm meL yîts, a stick he tied. 169-5. (Pl. 30, fig. 12.)

<sup>150</sup> Hupa -weL, -wil, -wîl, III, 224.

<sup>150</sup> Cf. bel get, spear head. 133-8.

<sup>151</sup> Hupa -wen, -wîñ, -we, III, 225.

<sup>152</sup> Hupa -wen, -wîñ, -wûw, -we, III, 226.

<sup>153</sup> III, 280.

-gûts, to bite.

be te gûts, he bit it. 109-7.

-kai, to be alive.

na kai, alive. 114-2.

-kal, -kaL, to break.

tas kal, break. 81-11.

tûc kal, I will break. 110-1.

-kan, -ka, -kai, -kaL, relating to the passing of the night.<sup>164</sup>

n hes ka nî, we spent the night. 167-7. (Pl. 44, fig. 10.)

n he ôL ka kwic, we will spend the night probably. 105-3. (Pl. 27, fig. 10.)

dô yîL kai, not day. 178-12.

yî gûl kaL, it was daylight. 105-5.

yî gûl ka lit, it got light when. 114-5.

-kañ, -kac, -ka, to move a vessel containing liquid.<sup>165</sup>

wa' ôñ kañ, she gave him. 129-4. (Pl. 23, fig. 3.)

kô wa kac, give him (a basket of food). (Pl. 45, fig. 1.)

Used of fishing with a net, probably the same stem.

Cf. ô' kan, net it. 168-14.

ts' gûn kan, he had caught. 120-1.

dô ya' kac, they didn't net it. 168-14.

kwa te'gûs t ka, for him they dipped. 155-7.

-kañ, -kûn, to be sweet.<sup>166</sup>

L kûn, is sweet. 166-11.

tâl ka mûn dja', sweet will be. 91-5.

-ke', to finish.<sup>167</sup>

be nîL ke'e, I have finished. 82-15. (Pl. 23, fig. 12.)

bel ke', he finished. 172-12. (Pl. 45, fig. 3.)

be iL ke get, he finished when. 149-15.

be gec ke ge, I am finishing. 76-7.

-ke', to bathe (plural only).

na' ke', bathe. 172-14. (Pl. 45, fig. 2.)

-ket, to trade.<sup>168</sup>

Le te'ôñ ket, they traded. 172-6.

-kût, to ask, to question.<sup>169</sup>

dô ha' cõ dôL kût, do not ask me. 166-8. (Pl. 45, fig. 8.)

<sup>164</sup> Hupa -xa, -xal, -xal, -xûñ, III, 250.

<sup>165</sup> Hupa -xan, -xûñ, -xauw, III, 250.

<sup>166</sup> Hupa -xan, -xûn, III, 250.

<sup>167</sup> Hupa -xe, -xû, III, 252.

<sup>168</sup> Cf. Hupa -xait, -xai, to buy, III, 251.

<sup>169</sup> Hupa -xût, -xûl, III, 252.

-kût, to travel (plural only).

te'n nûl kût, they came. 154-12. (Pl. 45, fig. 6.)

dô ha<sup>e</sup> te't tel kût, they did not go. 167-17. (Pl. 45, fig. 7.)

-kût, to swallow.

te' gâl kût, he swallowed. 109-7. (Pl. 1, fig. 3; pl. 45, fig. 5.)

nôe kût, may I swallow you. 181-14.

kʷ sal kût, his mouth he put in. 157-15.

-kût, to fall.

wal kût, fell through. 158-1.

na te'ûn kût, it fell. 83-4.

-kût, -kûs, to float.

yal kût, floated. 143-7.

teL kût, were washed away. 71-7.

nô nûk kûs, it floated about. 127-8.

-k'ag, -k'a', to be fat.<sup>170</sup>

L k'a' bûn dja<sup>e</sup>, let it be fat. 85-14. (Pl. 26, fig. 10.)

L k'ag, is fat. 83-15.

-k'ai, to hit (with an arrow).<sup>171</sup>

nûn neL k'ai, he hit. 156-14. (Pl. 45, fig. 9.)

-k'an, to build a fire.<sup>172</sup>

ôL k'añ, make a fire. 103-7. (Pl. 3, fig. 7.)

gûl k'an, there was a fire. 162-13. (Pl. 45, fig. 10.)

ûL k'añ, make a fire. 127-11. (Pl. 45, fig. 11.)

-k'ats, -k'as, -k'al, relating to position and movement of long objects only.

te' tûL k'as dja<sup>e</sup>, let him drop. 129-8. (Pl. 10, fig. 4.)

ya<sup>e</sup> gûL k'as, he threw up. 154-5.

wan t gûl k'ac, she threw up. 144-7.

nô wil k'as, fell. 152-1.

nûn ya<sup>e</sup> L k'as, they pushed them in. 154-14.

te' gûl k'al, it fell. 154-10.

te'ûL k'al, it struck. 154-11.

-k'e<sup>e</sup>, to brace oneself in getting up from a sitting or lying position.<sup>173</sup>

nûn s'ûs dûk k'e<sup>e</sup>, he got up. 98-5. (Pl. 23, fig. 10.)

nûn ûn dûk k'e<sup>e</sup>, get up. 100-3. (Pl. 44, fig. 8.)

-k'ôts, to be sour, to be bitter.

dûn k'ôts, sour. 139-11.

dô dûn k'ô teit, it is not salt because. 87-10.

<sup>170</sup> Hupa -kan, -ka, III, 202.

<sup>171</sup> III, 281.

<sup>172</sup> Cf. Hupa, wil kan nei, a fire is burning. I, 151, l. 4.

<sup>173</sup> Cf. Hupa -kai, -ka, III, 280.

-k'ûc, to lighten.

dô te't tûL k'ûc, it did not lighten. 74-6. (Pl. 44, fig. 9.)

-k'ûñ<sup>174</sup>, to twist.

ô'k'ûñ<sup>174</sup>, twist. 163-12.

na te' k'ûñ<sup>174</sup>, it is writhing. 177-8.

-k'ûts, to push in.

wəL k'ûts, put in. 105-14.

nai neL k'ûts kwən, had stuck in. 158-4.

tət ūs k'ûts, he pulled it out. 127-9.

-qal, -qal, to walk (third person only).<sup>175</sup>

te' qal ya' nī, he was walking they say. 93-12. (Pl. 2, fig. 5;  
pl. 44, fig. 1.)

-qôt, to penetrate with a point, to spear.<sup>176</sup>

te' ūs qôt, he speared. 128-13. (Pl. 8, fig. 8.)

ŭñ qôt, spear it. 128-12. (Pl. 44, fig. 7.)

ŭc qôt, I will spear it. 164-2.

#### SUFFIXES

The source of the information upon which the statement is based, the degree of probability, and the time and stage of completion are indicated by suffixes which stand after the stem of the verb. In some cases it is a matter of doubt whether these should be treated as separate words or as word parts merely. In most cases they do not seem to carry definite meaning when disjointed from the verb. Several of them are affixed to nouns and other parts of speech.

#### *Source of Information*

-e, -ē are used of facts directly observed or in which the speaker is concerned and has personal knowledge. The forms with -ē seem to be more emphatic.

be ne sīL git dī, I am becoming afraid. 130-15. (Pl. 6, fig. 2.)

be nīL ke'e, I have finished. 82-15. (Pl. 23, fig. 12.)

sī yī ne, I stand. (Pl. 25, fig. 7.)

ye s'a ne, house stands. (Pl. 28, fig. 6.)

ŭc ga nē, I kill. 138-4.

na ŭñ gūL 'a' ē, he put across. 134-5.

nas dūL līn nē, we have got back. 95-12. (Pl. 3, fig. 6.)

te' ŭñ gī la nē, I went after. 136-10.

<sup>174</sup> Cf. k'ûñ<sup>174</sup>, withes. 163-12.

<sup>175</sup> III, 284.

<sup>176</sup> III, 285.

-*ûñ gĩ* states the fact as undoubtedly true and directly observed but seems to indicate a degree of surprise.

*te' Loi ûñ gĩ*, she is making a basket. (Pl. 2, fig. 7.)

*nif yañ kwañ ûñ gĩ*, it has cleared off. 168-1. (Pl. 26, fig. 1.)

*te' sin ûñ gĩ*, he is standing. (Pl. 26, fig. 2.)

*te't tan' ûñ gĩ*, he is eating. 174-1. (Pl. 38, fig. 11.)

*ya' nĩ*, *te' in*, are in form independent verbs. The former is the regular quotative used in myths and tales and is quite indefinite as to its subject.

*te' qal ya' nĩ*, he was walking they say. 93-12. (Pl. 2, fig. 5.)

*te' gũñ al' ya' nĩ*, he chewed it they say. 109-7. (Pl. 26, fig. 4.)

*kwai' la' ya' nĩ*, he did it they say. (Pl. 31, fig. 3.)

*na gũl tũl ya' nĩ*, he got wet they say. 126-16. (Pl. 42, fig. 3.)

*sẽl gĩñ ya' nĩ*, he killed they say. (Pl. 43, fig. 10.)

-*kwañ* refers to acts which while not directly observed, are inferred with certainty from the nature of the evidences observed.

*ka gũl 'al kwañ*, they had sprung up along. 87-13. (Pl. 27, fig. 7.)

*te't tẽl bũl kwañ*, he had hung up. 176-3. (Pl. 27, fig. 8.)

*te' gũn dac kwañ*, he had danced. (Pl. 37, fig. 11.)

*na ga kwañ*, he had walked. 154-12. (Pl. 42, fig. 6.)

*na' dẽl gal kwañ*, he had poured. 125-13. (Pl. 42, fig. 12.)

-*kwa nã* seems to be used with suffix -e, -ẽ and indicates that the evidence but not the act is directly observed.

*et cĩ nẽ kwa nã*, were black. 94-7.

*et ga ye kwa nã*, were getting white. 94-5.

*ta te'ũl atẽ kwa nã*, turtles have come out of water. 95-8.

*te'tẽl tẽt ye kwa nã*, someone had stolen. 138-15.

-*kwũc*, -*kwic*, is used with the first person only, and denotes conjecture as to past, present, or future happenings.

*añ kwũc*, it cries I guess. 115-4.

*na hũc da kwũc*, I will go back. 137-10.

*na kw nĩc t'a kwic*, I am going to sling at him. 122-14. (Pl. 40, fig. 9.)

*n he õl ka kwic*, we will spend the night probably. 105-3. (Pl. 27, fig. 10.)

*kwũn s'ũs nũl ke' kwũc*, might track us. 142-11.

-*kwũl luc*. This suffix seems to be related to the last in both form and meaning.

*ũñ gĩ kwũl lũc*, is I think. 170-13.

*ũs t'e kwũl lũc*, it is done I guess. 169-1.

### *Modal*

-*bũñ* predicts the act or happening with more or less determination on the part of the speaker that it shall come to pass.



wa nân tēi būñ, it will blow through. 80-14. (Pl. 23, fig. 4.)

nai 'ai būñ, it will be across. 85-8. (Pl. 23, fig. 8.)

kai 'ai būñ, it will grow up. 84-11. (Pl. 26, fig. 9.)

nō 'l būñ, you must stay. 105-2. (Pl. 28, fig. 8.)

na cōl na būñ, you must doctor me. 166-10. (Pl. 33, fig. 4.)

-dja<sup>e</sup> is used of future predictions in which determination or desire on the part of the speaker that the events shall come to pass is usually evident. For this reason it occurs more frequently in the first person.

te' tōl k'as dja<sup>e</sup>, let him drop. 129-8. (Pl. 10, fig. 4.)

te'ōl tēi dja<sup>e</sup>, let him make. 140-2. (Pl. 27, fig. 6.)

kūc na<sup>e</sup> dja<sup>e</sup>, I want to live. 171-7. (Pl. 27, fig. 5.)

l k'a' būñ dja<sup>e</sup>, let it be fat. 85-14. (Pl. 26, fig. 10.)

a dūl le<sup>e</sup> dja<sup>e</sup>, we will do it. 83-2.

ōc t ge<sup>e</sup> dja<sup>e</sup>, I will look at. 149-13.

-tel, -tē le. The simple future prediction without an implication of duty, necessity, or intention is expressed by tel; te le is used when the information is on the speaker's authority.

te'ic t'a tē le, I will feather arrows. 156-5. (Pl. 7, fig. 9.)

nūc iñ tē le, I will look. 165-4. (Pl. 27, fig. 3.)

be nac 'ai<sup>e</sup> tē le, I will try again. 139-1. (Pl. 27, fig. 4.)

gūl lōs tē le, he will bring it. (Pl. 32, fig. 9.)

ce dūn tē le, I will die. 177-5. (Pl. 38, fig. 9.)

nan dūl tel, are you going home? 120-13.

na hō tūn nēc tel, will you move? 140-8.

nūl lin tel būñ, will flow for. 89-5.

ūl tēi tel, you will make. 139-10.

na hūn dactel, will you go back? 137-9.

na hūc dēc tē le, I will go back. 117-18.

-ūt, -hūt, when, because. This suffix subordinates the verb to which it is attached either as to time or cause as the context may require. It is confined in its use to the past. The suffix usually takes over as the initial of its syllable the final consonant of the stem. An h may be the final aspiration of the preceding stem.

ūl gūl lūt, it was evening when. 105-6.

yai nūl tī nūt, they brought it when. 128-16.

ya<sup>e</sup> gūl k'a sit, he threw up when. 154-11.

yīl t'ō gūt, stuck him when. 156-1.

lūn tes ya hūt, they came together when. 148-9.

na nūn la gūt, he jumped across when. 147-7.

ō dji te'ūs tūk ūt, he killed because. 157-7.

wan nīle get, I swam to because. 175-5.

na l cūl ūt, it was wet because. 126-11.

nas lī<sup>e</sup> nūt, he was tied because. 146-5.

te sī ya hūt, I went because. 118-5.

*Temporal*

-de<sup>e</sup>, when, if. This suffix is used of events in the future, whether certain to occur or not, fixing the time of another act or event.<sup>177</sup>

- ō dji sōl tāk de<sup>e</sup>, you kill it if. 177-5.  
 wūn kw nūk de<sup>e</sup>, you tell about when. 176-2.  
 naL kūt de<sup>e</sup>, you come back if. 117-18.  
 na nūL gal de<sup>e</sup>, when you put across. 153-11.  
 na he sūn t ya de<sup>e</sup>, if you go back. 137-10.  
 ts'ūs qōt de<sup>e</sup>, if he spears it. 128-9.  
 te'nūn ya de<sup>e</sup>, if he comes. 142-11.  
 gūL gel<sup>e</sup> de<sup>e</sup>, night when. 97-10.  
 gūn dō<sup>e</sup> de<sup>e</sup>, is gone if. 140-2.  
 kō wūn tūn de<sup>e</sup>, it is cold when. 172-15.  
 kō te' gūl 'ūts de<sup>e</sup>, when she runs down. 153-11.

-ūñ expresses a contingency as less certain than -de<sup>e</sup>.

- ūc te lī<sup>e</sup> ūñ, I might be cold(?). 133-8.  
 wūn tōL gūc ūñ, might be frightened. 99-15.  
 na ōn te lē<sup>e</sup> ūñ, may come. 133-9.  
 tōt būL ūñ, it may rain. 168-6.  
 Cf. na nō te'ūL ke<sup>e</sup> ū leñ<sup>e</sup>, he might track us. 138-10.  
 ta nan ō da ū leñ<sup>e</sup>, he might come again. 135-8.

-kwa<sup>e</sup> denotes the continuance of the act until a stated time.<sup>178</sup>

- na hūc ga kwa<sup>e</sup>, I am untying yet. 123-10.  
 te'n nūn dac kwa<sup>e</sup>, he danced until. 130-15

-l, -L suffixed to the syllable of stem is used for acts or conditions that are continuous in time or place.

- gūn yaL, walk. 104-13.  
 t gūn nīL, it kept hooting. 179-7.  
 tee' gūl laL,<sup>179</sup> he cried along. 145-5.

-c is used of continuous or often repeated acts. It is also found in the imperative of many verbs without its meaning being clearly manifest.

- ta cac, I went. 182-17.  
 tūn yac, you go. 78-13.  
 tūm mic, swim. 118-16.

-bī<sup>e</sup>, in. This suffix common with nouns occurs with verbs with the sense of when.

- tea kwūL gel<sup>e</sup> bī<sup>e</sup>, very dark in. 179-8.  
 tea kwūL gel<sup>e</sup> bī<sup>e</sup> ūñ<sup>e</sup>, very dark in. 179-7.

<sup>177</sup> III, 321.

<sup>178</sup> Cf. Hupa -ūx, -x, III, 304.

<sup>179</sup> The stem is tee<sup>e</sup>, therefore -gūl laL is an extended form or a compound suffix.

-ûñ is used in asking a question to be answered by yes or no.

wan 'ac ûñ, did you give? 137-8.

nan t ya ûñ kwān, have you come back? 132-14.

te'ûn yan ûñ kwān, you have eaten? 138-3.

-kwan hût, two of the suffixes presented above, when combined make a relative temporal reference to the completion of the act.

nas lifi ût kwāñ hût, it was again because. 107-6.

te'is tciñ kwān hût, he had made when. 120-1.

te'ôl yi kwān hût, he had named when. 117-12.

te'ûs t'a kwān hût, he had feathered when. 116-12.

kê nôl get kwān hût, because you were afraid. 123-12.

#### TENSES AND MODES

In addition to temporal and modal variations expressed by means of prefixes and suffixes discussed above there are two forms of the completed verb resulting in part from accent which have different temporal modal force associated with them. The present indefinite is usually the shorter of the two forms and is used mostly for the imperative, for intended or proposed action in the first person, and in negative statements. It might be distinguished as the non-indicative. The subject prefix of the first person singular is *c*, the second modals are usually absent, and the weaker form of the stem is usually found.

The definite tense is usually indicative in mode, referring to an act or state as existing at a definite time, usually past. It is distinguished by *I* as the subjective prefix in the first person singular, by the presence of one of the second modal prefixes, and by the stronger form of the stem. The glottal stop is so frequently found as the final element of the stem that it seems plausible that it is a morphological or phonetic characteristic of this form.

##### *Present Indefinite*

ôc lañ<sup>c</sup>, I will get. 137-2. (Pl. 24, fig. 11.)

nac be, let me swim.

cô<sup>c</sup> ôc le<sup>c</sup>, I will fix it. 77-3.

tûc ca<sup>c</sup>, I am going. 161-1.

ta te' ô<sup>c</sup> bûl, prepare mush (imp. plu.). 123-13. (Pl. 37, fig. 6.)

tôt bûl, let it rain. 80-12.

tô gûc bûñ, let him carry. 140-1.

##### *Past Definite*

ôn gî la ne, I brought. 137-1.

nî bî ne, I swam. 118-17.

cô<sup>c</sup> gî la ge, I am fixing it. 76-12.

te sî yai, I went. 120-17.

ta te cō<sup>c</sup> bîl<sup>c</sup>, have you cooked? 169-14.

tet bîl<sup>c</sup>, it rained. 81-1. (Pl. 36, fig. 13.)

tes gin, he carried. 101-11.

TABLE OF ANALYZED VERBS

Adverbial	Deictic ya te'	Objective kw	1st Modal n	2nd Modal (n)	Subjective	3rd Modal L	Stem 'in	Suffix
ya'				g		L	gal'	they saw him. (Pl. 25, ag. 8.)
ye'	te'			g		n	yai	he threw up. (Pl. 23, ag. 1).
wa'						n	kaf	he went in. 132-13. (Pl. 23, ag. 2).
Le			ge	s			'a'	she gave him. 129-4. (Pl. 23, ag. 8).
na			de	s			bil'	it was encircling. 82-15. (Pl. 23, ag. 5).
na	te'				ð'		Lō	he spilled. 123-2. (Pl. 23, ag. 9).
nō'							gal	set snares. 108-2. (Pl. 26, ag. 6).
nūn	y	e				L	gal	throw me. 133-4. (Pl. 25, ag. 1).
nūn	s'			s		d	t'ō	when he stung. 156-15. (Pl. 26, ag. 8).
na			te	g		L	'a	he got up. 98-5. (Pl. 23, ag. 10).
				s	i		yin	he stood them up along. 88-13. (Pl. 26, ag. 8).
be na					c		'ai'	I stand. (Pl. 25, ag. 7).
de					n		'ac	I will try again. 139-1. (Pl. 27, ag. 4).
dō			d		d	l(L)	sūs	put on the fire. 127-12. (Pl. 28, ag. 15).
te'nō					d		ge'	we did not see. 116-18. (Pl. 26, ag. 7).
	te'		ne	g		L	'in	we will put in water. 139-9. (Pl. 24, ag. 8).
	te'	kw				L	lō'	he looked at it. 156-16. (Pl. 26, ag. 12).
	te'			n		n	ya	when he fooled him. 136-14. (Pl. 26, ag. 6).
kə						l	'ai	when he came. (Pl. 26, ag. 9).
								it will grow up. 84-11. (Pl. 26, ag. 9).

## INTERPRETATION OF TRACINGS

Plates 3 and 4 have nasal tracings for the upper line. These are made as follows: a glass bulb open at each end is inserted in one nostril, from the outer end of which a rubber tube passes to a tambour having a rubber membrane rather tightly stretched. To this rubber membrane a straw lever ending in a horn tracing point is attached. As long as the posterior orifices of the nostrils are closed by the velum the line will be straight, but as soon as the velum falls the tracing point rises. The tracings show that the vibrations are recorded both in the nasal consonants and nasalized vowels, when the breath passes through the nose, and in the pure vowels, when the nasal passage is closed. In the latter case the vibrations must be transmitted through the soft and hard palate.

In plates 1, 2, and 5-11 the upper line is from the larynx. A metal tube ends in a cup-shaped termination over which a sheet of thin rubber is stretched. This is applied to one side or the front of the larynx. In these tracings the attachment was in most cases to the front near the notch of the Adam's apple. The subject's neck was soft and flabby, the larynx projecting but slightly. The connection and tambour were the same as those used for nasal tracings.

In both cases the points of the tracing levers were so adjusted that vertical lines drawn with the instrument cut the two tracings at synchronous points. The error due to irregularities of the drum does not exceed a millimeter (about .02 second).

The lower line in the above mentioned plates and the tracings in the remainder of the plates are made by the air column of the breath taken from the lips by a metal mouthpiece fitting closely and transmitted by a small rubber tube to a Marey tambour. All the tracings were, with one or two exceptions, made with the same tambour with no material change in its adjustment.

Vowels and semi-vowels result in more or less elevation of the tracing point which inscribes the vibrations; these are in most cases the fundamentals not the partials of the sounds. The liquid *l* has vibrations similar to those of the vowels, but usually shows one or more deep notches at its beginning. The nasals result in straight horizontal lines at the lowest level, since no breath issues

from the mouth during the articulation. The spirants are smooth upward curves showing only the varying strength of the air-column, which is controlled by the size of the opening of the mouth passage and the lung pressure. The instrument is not delicate enough to record the agitation of the air produced by the rubbing against the opening which gives the spirants their characteristic sounds.

The stops are shown by horizontal lines of the lowest level during the period of closure, and by nearly or quite vertical lines caused by the sudden release of air at the moment of explosion. If the stop be a sonant the point immediately falls and traces the vibrations. If an aspirated surd is spoken the point continues to rise or falls slowly without marking regular vibrations. If the stop is accompanied by glottal action the points fall sharply to or below the level marked by the tracer during the closure, the vibrations beginning as it recovers from this descent.

By observing the points where the vertical lines cut the horizontal ones in plates 1-11, the exact beginning and end of sonancy and nasalization can be ascertained as regards the movements within the mouth indicated by the breath tracing. The straight horizontal line is drawn mechanically while the paper is on the drum and constitutes a time line extremely accurate, with 50 mm. equal to one second. The duration of words, syllables, individual sounds, and often their component parts may be quickly determined.

Varying elevations of the tracings of the same sound in the same word indicate changing stress. It is probable that vowels being but slightly impeded in the passage through the mouth regardless of their quality show stress. The amplitude of the vibrations in the tracings varies with both stress and pitch, since the natural period of the membrane and lever favors a certain rate of vibration which is rendered more strongly. The pitch can often be determined, relatively at least, by counting the number of vibrations in a given length of base line.

Little can be determined as to the quality of the vowels by tracings such as these.

*Transmitted March 1, 1911.*

## EXPLANATION OF PLATE 1

### LATERAL SONANT AND SPIRANT

Upper line larynx, lower line breath.

- Fig. 1.—la<sup>ˆ</sup> nes, raccoon. 112-5.  
Fig. 2.—l<sup>ˆ</sup>a ci<sup>ˆ</sup>, buckeye. 94-6.  
Fig. 3.—te' gũl kũt, he swallowed. 109-7.  
Fig. 4.—õ lañ, you get (imp.), 133-14.  
Fig. 5.—kõ wũn sũl, it was becoming hot. 172-14.  
Fig. 6.—te'ũs li<sup>ˆ</sup>, he caught in a noose. 108-4.  
Fig. 7.—ka si del<sup>ˆ</sup>, we came up. 141-2.  
Fig. 8.—na di<sup>ˆ</sup>l, sugar-pine. 89-17.  
Fig. 9.—te'n nel. yĩl<sup>ˆ</sup>, she eats up. 180-9.

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 8

$x$	$y$	$xy$	$x^2$	$y^2$
1	1	1	1	1
1	2	2	1	4
1	3	3	1	9
1	4	4	1	16
1	5	5	1	25
2	1	2	4	1
2	2	4	4	4
2	3	6	4	9
2	4	8	4	16
2	5	10	4	25
3	1	3	9	1
3	2	6	9	4
3	3	9	9	9
3	4	12	9	16
3	5	15	9	25
4	1	4	16	1
4	2	8	16	4
4	3	12	16	9
4	4	16	16	16
4	5	20	16	25
5	1	5	25	1
5	2	10	25	4
5	3	15	25	9
5	4	20	25	16
5	5	25	25	25
$\Sigma$	$\Sigma$	$\Sigma$	$\Sigma$	$\Sigma$
55	55	165	220	285







## EXPLANATION OF PLATE 2

### LATERAL SPIRANT

Upper line larynx, lower line breath.

Fig. 1.—Lōn tē ge nes, “rodent ears long,” a mouse.

Fig. 2.—naL tēōs, she put a blanket. 180-7.

Fig. 3.—naL<sup>ē</sup> gī, dog. 91-9.

Fig. 4.—tea kwōL gel<sup>ē</sup>, very dark. 74-8.

Fig. 5.—tē' qal ya<sup>ē</sup> ni, he was walking they say. 93-12.

Fig. 6.—L<sup>ē</sup> gūc, rattlesnake. 91-17.

Fig. 7.—tē' Lōi ūñ gī, she is making basket.

Fig. 8.—Lō' L tsō, grass blue. 76-6.

1 L. 0 n te ke n e s 2 n n L. te 0 s 3 n n L. e ke I

4 te a kw 0 L. ke e I e 5 te' q a L. ya e n I

6 L. e ke 0 e 7 te' L. 00 0 n ke I 8 L. 0 ' L. te 0





### EXPLANATION OF PLATE 3

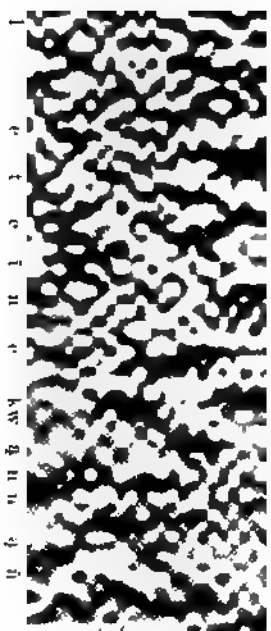
#### NASALS

Upper line from bulb in nostril, lower line breath.

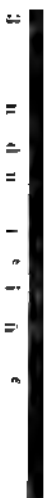
- Fig. 1.— et cī nē kwān nāñ, it had turned black. 94-7.  
Fig. 2.— kwāL ūn ya<sup>c</sup> nī, they told him they say. 125-2.  
Fig. 3.— n dāl 'iñ<sup>c</sup>, let us look. 168-1.  
Fig. 4.— ō tē'ūñ<sup>c</sup>, to him. 79-9.  
Fig. 5.— nas liñ<sup>c</sup>, he became. 107-8.  
Fig. 6.— nas dōl lin ne, we have got back. 95-12.  
Fig. 7.— ōL k'añ, make a fire (plu. imp.). 103-7.

U\* / CA F 22      M\*4 Abc 9 f\* m\* vLL 1

[000000] L 2



22      kw n L n n 28 6 m 7



3      n d n l e i n 6      4      o      te\* i n 6      20      n n s l 7 n 6

6      n n s d n n n o

7      n      l,      k' n n







## EXPLANATION OF PLATE 4

### NASALS

Upper line from bulb in nostril, lower line breath.

- Fig. 1.— ya' bí' úfí', sky in. 81-2.  
Fig. 2.— wó'n tca', teeth large. 86-5.  
Fig. 3.— n gún dō', it became none. 76-12.  
Fig. 4.— ya'n ya' ní, they said they say. 82-11.  
Fig. 5.— kwōfí', fire. 81-3.  
Fig. 6.— ca'na', creek. 79-3.  
Fig. 7.— ne' ū nō', behind the hill. 164-16.  
Fig. 8.— k'íí', junberry. 133-3.  
Fig. 9.— wa te'a mí', hole in. 156-12.

1      ya'   h   i   e   h   h   e      2      wu'   e      h   te'   a      3      n   R   a   n   d   o   e

4      ya'   e   n   ya'   e   n   i      5      kw'   o   h   e      6      e   a   '   n   a   e

7      n   e'   e   h   n   o'   e      8      k'   i   h   e      9      n   wa'   to'   a   m'   i   e





## EXPLANATION OF PLATE 5

### SPIRANTS

Upper line larynx, lower line breath.

- Fig. 1.— se, stone. 71-3.  
Fig. 2.— te' nes tiff, he lay down. 175-11.  
Fig. 3.— wōs, leg. 79-10.  
Fig. 4.— c tel<sup>ε</sup>, my heart. 101-5.  
Fig. 5.— bec 'ai<sup>ε</sup>, I will try it. 109-9.  
Fig. 6.— te'ō gac, let him chew it.  
Fig. 7.— hakw dūff<sup>ε</sup>, that time. 71-2.  
Fig. 8.— ne hin nō'si<sup>ε</sup>, our heads. 129-10.  
Fig. 9.— yō', scoter(†), a bird. 122-6.

1 s e 2 te' n e s t i n 3 w o s

4 e te I e b e e ui e 6 te' o k o e

7 h a k e d o n e 8 n e h t n o ' e t e b y o e







## EXPLANATION OF PLATE 6

### LABIAL STOP AND NASAL

Upper line of figs. 1-4, 7, larynx, of figs. 5, 6, 8, from bulb in nostril,  
lower line breath.

Fig. 1.— be cō' lōs, take me up (plu.), 147-6.

Fig. 2.— be ne sīL git dī, I am afraid of. 130-15.

Fig. 3.— t bōc, it is round. 80-1.

Fig. 4.— da bes ya', he climbed up. 180-6.

Fig. 5.— main, weasel. 74-2.

Fig. 6.— dō mūf', it is full. 129-13.

Fig. 7.— bī' sta, he was sitting in. 132-3.

Fig. 8.— ta tc'ūm mūL, cook mush (imp. sing.). 163-14.

1 b e v o ' l u s 2 b e n e s t l e f t

3 t b o e f d u b e s y n e f m m n

4 d e m u n e f b t e s l u n t a t o u m u l





## EXPLANATION OF PLATE 7

### DENTAL STOPS

Upper line larynx, lower line breath.

- Fig. 1.—dō, not. 137-2.  
Fig. 2.—de t gûn 'aŋ, he put in the fire. 168-17.  
Fig. 3.—da' n die ge', I will pick you up. 141-4.  
Fig. 4.—tō, water. 71-1.  
Fig. 5.—te' nō dōg ge', we will put in water. 139-9.  
Fig. 6.—nō te'ûn tō', water came so far. 75-1.  
Fig. 7.—t'a', feather. 105-14.  
Fig. 8.—a t'a, her blanket fold. 181-9.  
Fig. 9.—te'ie t'a tē le, I will feather arrows. 156-5.









## EXPLANATION OF PLATE 8

### SONANT PALATAL STOPS

Upper line larynx, lower line breath.

- Fig. 1.— gûL tûk, it burst. 182-5.  
Fig. 2.— tē't te gûs tēi', it was about to dawn.  
Fig. 3.— L tsō gûñ, fox. 73-3.  
Fig. 4.— tûc ge', I will carry. 135-4.  
Fig. 5.— na wō' nic, you (plu.) played. 134-17.  
Fig. 6.— ûc tēi ge, I cried. 140-6.  
Fig. 7.— qō, worm.  
Fig. 8.— tē'ûs qōt, he speared it. 128-13.  
Fig. 9.— kw na tae ha', without his knowledge.

1.  $\mathbb{R}^n$  is a vector space over  $\mathbb{R}$ .

2.  $\mathbb{R}^n$  is a vector space over  $\mathbb{C}$ .

3.  $\mathbb{R}^n$  is a vector space over  $\mathbb{H}$ .

4.  $\mathbb{R}^n$  is a vector space over  $\mathbb{R}$ .

5.  $\mathbb{R}^n$  is a vector space over  $\mathbb{C}$ .

6.  $\mathbb{R}^n$  is a vector space over  $\mathbb{H}$ .

7.  $\mathbb{R}^n$  is a vector space over  $\mathbb{R}$ .

8.  $\mathbb{R}^n$  is a vector space over  $\mathbb{C}$ .

9.  $\mathbb{R}^n$  is a vector space over  $\mathbb{H}$ .





## EXPLANATION OF PLATE 9

### SURED PALATAL STOPS

Upper line larynx, lower line breath.

- Fig. 1.—ka l'a', it sprang up (of vegetation). 76-10.  
Fig. 2.—nək ka', two. 178-4.  
Fig. 3.—te' gə kūs, a boat went. 126-7.  
Fig. 4.—dō kwa t'ŋ, he never did that. 130-14.  
Fig. 5.—kw nĭl iŋ', he looked at him. 134-2.  
Fig. 6.—k't teL teōt, he stole. 118-11.  
Fig. 7.—gōl k'aŋ, there was a fire. 162-13.  
Fig. 8.—t k'an yī dōk, up the ridge. 99-3.  
Fig. 9.—ō tei k'wūt', on his tail. 162-14.

1 k' u l e u e 2 u a k' a e 3 t'e'k' e' k' u s

4 d o kw a t' i u u k' m u t l i u e 6 k' t t e l t' o t

7 g u l k' u u k' t k' a y t d u k , p t e' t' k' w a t'







## EXPLANATION OF PLATE 10

### AFFRICATIVES

Upper line larynx, lower line breath.

- Fig. 1.—*tən nas djöl'*, it rolled out of the fire. 147-9.  
Fig. 2.—*kw na' ūl tcl*, make him live.  
Fig. 3.—*tc' gūn yic*, he broke off. 79-12.  
Fig. 4.—*tc' tōl k'as dja'*, let him drop. 129-8.  
Fig. 5.—*na tcūl*, orphan. 102-6.  
Fig. 6.—*tc'e na gūt dac*, he came out again. 149-13.  
Fig. 7.—*ta' dji nes tiñ*, where is he lying? 182-3.  
Fig. 8.—*naL cōte*, grass-snake. 84-5.  
Fig. 9.—*ye' tc' gūn yai*, he went in. 97-11; 132-13.



11 t' un a s d j o l e 2 kr n n e n l t e i 3 te' k n y i e

4  $\{e', e''\}$   $\bar{0}$   $\{1, k'\}$   $\bar{1}$   $\emptyset$   $d_j$   $n$   $\epsilon$   $\bar{2}$   $n$   $n$   $\{e''\}$   $\bar{0}$   $\bar{1}$   $\bar{5}$   $\{e', e''\}$   $n$   $n$   $\bar{1}$   $\bar{4}$   $\bar{7}$   $a$   $e'$

$$L^{\infty}(\mathbb{R}^n) \rightarrow L^{\infty}(\mathbb{R}^n) \quad \text{by } f \mapsto f \circ \phi$$





## EXPLANATION OF PLATE 11

### MISCELLANEOUS

Upper line larynx, lower line breath.

- Fig. 1.—wakwts, one side, away from.  
Fig. 2.—kʷŋʷ, juneberry. 133-3.  
Fig. 3.—wal kʷatsʷ, he put in. 105-14.  
Fig. 4.—tʷeʷ, raw. 91-5.  
Fig. 5.—c bātʷ, my stomach.  
Fig. 6.—se qōtʷ, a headdress. 176-17.  
Fig. 7.—se tō nai, stone-fish (sword-fish?). 86-1.  
Fig. 8.—tcʷŋs tʷōkʷ, he flaked. 156-7.  
Fig. 9.—tō neʷ ŋŋʷ, water behind. 126-6.

1. W. A. K. C. S. 2. A. J. D. C. 3. W. A. L. K. J. E. S. E.

4. E. C. I. 5. C. G. U. I. 6. S. C. Q. U. I.

7. S. C. E. I. G. U. A. I. 8. I. C. G. S. C. I. G. 9. I. I. G. U. C. E. U. I. E.







## EXPLANATION OF PLATE 12

### MONOSYLLABIC NOUNS

- Fig. 1.—a', clouds. 74-6.  
Fig. 2.—ya', sky. 77-13.  
Fig. 3.—ya', louse. 152-5.  
Fig. 4.—yas, snow. 74-3.  
Fig. 5.—wōs, leg. 79-10.  
Fig. 6.—Lōk', steel-head salmon. 84-5.  
Fig. 7.—Lāt, smoke. 141-2.  
Fig. 8.—Lō', herb. 71-3.  
Fig. 9.—se', stone. 71-3.  
Fig. 10.—slōs, ground-squirrel. 73-7.  
Fig. 11.—ca', sun. 74-9.  
Fig. 12.—cek', sputum. 154-14.  
Fig. 13.—bel, rope. 101-7.  
Fig. 14.—bōs, alide of soil. 86-11.  
Fig. 15.—tō, water. 71-1.  
Fig. 16.—ges, salmon. 84-3.  
Fig. 17.—kōs, cough.  
Fig. 18.—k'ōc, alder.  
Fig. 19.—k'wa', fat. 83-15.  
Fig. 20.—k'ōñ', hazel. 133-10.







## EXPLANATION OF PLATE 13

### NOUNS WITH POSSESSIVE PREFIXES

- Fig. 1.—a t'a, her blanket fold. 181-9.  
Fig. 2.—ū t'a ni, her dress. 165-6.  
Fig. 3.—ū tca', her apron. 165-8.  
Fig. 4.—ū sō', his tongue. 110-3.  
Fig. 5.—ū na', his eye. 152-10.  
Fig. 6.—ū ts'ō', her milk.  
Fig. 7.—ū sūts, its hide. 110-4.  
Fig. 8.—ō di ce', its shoulder. 75-1.  
Fig. 9.—ū de', its horn. 74-10.  
Fig. 10.—nat,' your sister. 132-4.  
Fig. 11.—e te ge, my grandfather. 153-10.  
Fig. 12.—e ne', my leg.  
Fig. 13.—e qōt', my knee.  
Fig. 14.—e dji', my heart.  
Fig. 15.—s tōō, my grandmother. 97-16.









## EXPLANATION OF PLATE 14

### NOUNS WITH POSSESSIVE PREFIXES.

- Fig. 1.—kwânt, cousin. 145-2.  
Fig. 2.—cûn dĩ, my cousin. 145-3.  
Fig. 3.—ba cỉ, his nephew. 145-3.  
Fig. 4.—kwô<sup>c</sup>, his teeth. 181-8.  
Fig. 5.—kw tẻ<sup>c</sup>, his tail.  
Fig. 6.—kactc, knife. 110-10.  
Fig. 7.—kw da<sup>c</sup>, his mouth. 123-2.  
Fig. 8.—kw kwe<sup>c</sup>, his foot. 82-5.  
Fig. 9.—ski, boy. 102-6.  
Fig. 10.—skik, children. 132-8.  
Fig. 11.—c teô djỉ, my kidney. 133-3.  
Fig. 12.—kw si<sup>c</sup> da<sup>c</sup>, his crown. 79-4.  
Fig. 13.—s tcaite, my grandchild. 97-16.  
Fig. 14.—gac teô, redwood, 86-8.  
Fig. 15.—ges teô, elk. 71-5.  
Fig. 16.—dũcte, quail. 72-5.







## EXPLANATION OF PLATE 15

### NOUNS WITH SUFFIXES

- Fig. 1.— *yiete*, wolf. 71-6.  
Fig. 2.— *t kōets*, chestnut. 89-8.  
Fig. 3.— *t kae teō*, pelican. 72-13.  
Fig. 4.— *yī teō*, dance house. 83-11.  
Fig. 5.— *ts'ūñ tel*, turtle (bone broad). 90-14.  
Fig. 6.— *teñ ta'*, among trees. 171-9.  
Fig. 7.— *ō de' L gai*, its horn white. 161-16.  
Fig. 8.— *ya' L gai*, louse white.  
Fig. 9.— *teñ gaite*, tail white. 138-12.  
Fig. 10.— *ges L cūñ'*, salmon black. 86-2.  
Fig. 11.— *na L cik*, eye shining. 181-9.  
Fig. 12.— *cic bi'*, red earth in (a mountain). 102-15.  
Fig. 13.— *ye' bi' ūñ*, house in. 110-15.  
Fig. 14.— *ye' bik*, house inside. 99-5.  
Fig. 15.— *ya' bik*, sky inside. 101-15.  
Fig. 16.— *būts k'ai'*, seagull. 122-6.

U ( V CA + E U H<sup>2</sup> A<sup>2</sup> A<sup>2</sup> H E<sup>2</sup> H<sup>2</sup> V )

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4    21    1e    6    5    1s'    n    1'    e    1    6    1e    n    n    1'    n'    7    6    d    e    e    1    2    n    1

8    y    n    e    1    e    n    1    9    1e    1    2    n    1    e    10    2    e    n    1    e    6    n    e

11    n    a    1    e    1    k    12    e    1    e    b    1    e    13    y    e    1    b    1    e    6    n    e

14    y    e    1    b    1    k'    15    y    n    1    b    1    k'    16    b    n    1s    k'    n    e







## EXPLANATION OF PLATE 16

### NOUNS WITH SUFFIXES

- Fig. 1.— yí' tûk gât, house middle. 142-13.  
Fig. 2.— gat teô', barnacle.  
Fig. 3.— se tcits, stone rough (sand-stone). 77-9.  
Fig. 4.— ne' L'ût, world middle. 75-3.  
Fig. 5.— Lûe t teô, rotten log. 134-15.  
Fig. 6.— cîñ hût, summer time. 155-1.  
Fig. 7.— ta L'ût, ocean middle. 126-8.  
Fig. 8.— wa te'añ, hole. 78-8.  
Fig. 9.— nûn ye' taG, ground under is found (bulbs). 148-8.  
Fig. 10.— nal te'ûl, white thorn. 91-14.  
Fig. 11.— nal gî, dog. 91-9.  
Fig. 12.— L taG, black oak. 89-17.  
Fig. 13.— na nec, people. 71-7.  
Fig. 14.— se k'at', grinding stone. 137-16.  
Fig. 15.— nõñ k teññ, pounded seeds. 94-4.







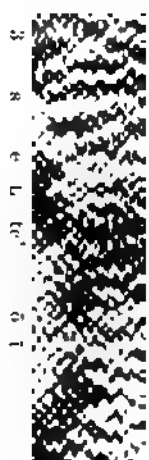
## EXPLANATION OF PLATE 17

### POLYSYLLABIC NOUNS

- Fig. 1.— i da' kw, Wailaki or Yuki. 170-9.  
Fig. 2.— na' eō k'a', robin. 72-9.  
Fig. 3.— seL te'ō i, heron. 72-4.  
Fig. 4.— ca'na', stream 79-3.  
Fig. 5.— ban tō', ocean. 86-10.  
Fig. 6.— cac dāñ, bear clover. 94-9.  
Fig. 7.— be liñ, eel. 90-15.  
Fig. 8.— ban teō, mussel. 84-13.  
Fig. 9.— būs būntc, an owl. 92-8.  
Fig. 10.— bel get, fish spear. 133-8.  
Fig. 11.— bel kats, pole of fish-spear. 128-12.  
Fig. 12.— būs te lō, owl. 72-2.  
Fig. 13.— tūn nī, road. 78-4.  
Fig. 14.— da teants, crow. 72-15.  
Fig. 15.— t'e ki, girls. 111-2.

1 i d a' k w'

2 n n e e o k' a'



3 s e l te' o i

4 e a' n n e

5 b b a n t' o e

6 o e n e d n n

7 b e i i n

8 b a n te o

9 b o s b a n t e

10 b e l k e t

11 b e j k' a t s

12 b n s te l o

13 t' o n n i

14 d n le a n l s

15 t' e k' i







## EXPLANATION OF PLATE 18

### POLYSYLLABIC NOUNS

- Fig. 1.— *tele'*, sack. 113-7.  
Fig. 2.— *te'a la*, sun-flower. 138-6.  
Fig. 3.— *te'a həl*, frog. 112-11.  
Fig. 4.— *tcūn te' baq*, a bird. 72-11.  
Fig. 5.— *te' kak'*, net. 84-8.  
Fig. 6.— *teō baq*, poison. 163-7.  
Fig. 7.— *gō ya ne'*, stars. 74-7.  
Fig. 8.— *kac kits*, old man. 108-2.  
Fig. 9.— *te' si tcūn*, coyote. 72-1.  
Fig. 10.— *kwi yint*, pigeon. 73-12.  
Fig. 11.— *k'ūn ta gita*, jackrabbit. 73-6.  
Fig. 12.— *l tsō gūn*, fox. 73-3.  
Fig. 13.— *s taite*, cotton-tail rabbit. 155-12.  
Fig. 14.— *yis kan*, day. 100-12.  
Fig. 15.— *yis t'ōt'*, fog. 126-2.







## EXPLANATION OF PLATE 19

### NOUNS OF VERBAL ORIGIN

- Fig. 1.— *na delte*, a small pine. 88-11.  
Fig. 2.— *bûl gûl gûs*, fire-sticks. 110-11.  
Fig. 3.— *ba na t'ai*, post of dance-house. 130-17.  
Fig. 4.— *t bûl*, burden basket. 179-11.  
Fig. 5.— *dûl kûts*, fawn. 108-9.  
Fig. 6.— *ts'ûs nō'*, mountain. 71-2.  
Fig. 7.— *te'n naL dûf*, adolescent girl. 109-9.  
Fig. 8.— *te' ga ts'e'*, twine. 116-10.  
Fig. 9.— *teaL nî*, mountain robin. 72-4.  
Fig. 10.— *te' ga'*, basket-pan. 113-10.  
Fig. 11.— *te' wôc tee'*, foam. 85-3.  
Fig. 12.— *kwûn teL bî'*, valley. 174-9.  
Fig. 13.— *teûn nûL teûnte*, Lewis' woodpecker. 72-8.  
Fig. 14.— *be dail teik teô*, a woodpecker, "its head red large."

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$\gamma = \frac{1}{n} \sum_{i=1}^n \gamma_i$

**11.1**

$\frac{1}{2}$ 
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 $\frac{1}{4}$ 
 $\frac{1}{5}$ 
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 $\frac{1}{8}$ 
 $\frac{1}{9}$ 
 $\frac{1}{10}$

0 1 2 3 4 5 6

1.  $\mathbb{R}^n$  is a vector space over  $\mathbb{R}$ .

$\mathcal{F}$     $\mathcal{F}_1$     $\mathcal{F}_2$     $\mathcal{F}_3$     $\mathcal{F}_4$     $\mathcal{F}_5$

11  
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11 60 8

$$11 \quad t_0^+ \neq \bar{t}_0^+ \quad t_0^- = \bar{t}_0^-$$

**I- k m n p q r**

13.  $\{a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z\}$

1. **Introduction**  
 2. **Background**  
 3. **Methodology**  
 4. **Results**  
 5. **Discussion**  
 6. **Conclusion**  
 7. **References**  
 8. **Appendix**  
 9. **Index**  
 10. **Table of Contents**  
 11. **Figure 1**  
 12. **Figure 2**  
 13. **Figure 3**  
 14. **Figure 4**  
 15. **Figure 5**  
 16. **Figure 6**  
 17. **Figure 7**  
 18. **Figure 8**  
 19. **Figure 9**  
 20. **Figure 10**  
 21. **Figure 11**  
 22. **Figure 12**  
 23. **Figure 13**  
 24. **Figure 14**  
 25. **Figure 15**  
 26. **Figure 16**  
 27. **Figure 17**  
 28. **Figure 18**  
 29. **Figure 19**  
 30. **Figure 20**  
 31. **Figure 21**  
 32. **Figure 22**  
 33. **Figure 23**  
 34. **Figure 24**  
 35. **Figure 25**  
 36. **Figure 26**  
 37. **Figure 27**  
 38. **Figure 28**  
 39. **Figure 29**  
 40. **Figure 30**  
 41. **Figure 31**  
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 90. **Figure 80**  
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 139. **Figure 129**  
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 211. **Figure 201**  
 212. **Figure 202**  
 213. **Figure 203**  
 214. **Figure 204**  
 215. **Figure 205**  
 216. **Figure 206**  
 217. **Figure 207**  
 218







## EXPLANATION OF PLATE 20

### POLYSYLLABIC NOUNS

- Fig. 1.—*ō tēi' k'wūt'*, its tail on. 162-14.  
Fig. 2.—*Lōn L gai*, wood-rat, "rodent white." 73-9.  
Fig. 3.—*yai in tafi'*, mole. 96-6.  
Fig. 4.—*Lō' n'ai*, grass game. 146-11.  
Fig. 5.—*ne' dāl bai*, a pine. 86-13.  
Fig. 6.—*yō' teil 'm*, abalone. 124-17.  
Fig. 7.—*ts'e k'e nects*, day eel, "navel long." 91-2.  
Fig. 8.—*tō bāt tō*, water-panther. 177-13.  
Fig. 9.—*ne' te li'*, earthquake.  
Fig. 10.—*tak'*, three. 101-4.  
Fig. 11.—*kwe' n telts*, black-crowned night heron, "foot broad."  
Fig. 12.—*tō nai L tsō*, blue cat-fish(?), "fish blue." 124-15.  
Fig. 13.—*yī ban nāk ka'*, seven, "beyond two." 166-1.  
Fig. 14.—*yō yī nūk'*, way south. 75-6.  
Fig. 15.—*dī nūk'*, south. 75-6.

$$U^{\dagger} J G A^{-1} = J^{\dagger} A^{\dagger} A^{-1} = (H^{\dagger} V U)^{-1} \quad \quad \quad \{A_0^{-1}, \dots\} = L_{\mu}$$

$$1 \quad t \, e \, \overline{t} \quad \epsilon \, k \, w \, \bar{n} \quad t \, ' \quad \quad \quad 2 \quad L \, \bar{Q} \, u \, L \, \mu \, u \, t \quad \quad \quad 3 \quad \overline{y} \, n \, u \, n \, t \, ' \quad u \, \bar{n} \, \epsilon$$

$$4 \quad L \, \bar{Q} \, ' \quad n \, \epsilon \, n \, ' \quad ' \quad \quad \quad 5 \quad n \, e \, \epsilon \, d \, \bar{n} \, l \quad h \, au \quad \quad \quad 6 \quad \overline{y} \, ' \, \bar{n} \, \epsilon \, \{e \, j \, l \} \quad \epsilon \, i \, \bar{n}$$

$$7 \quad k \, s \, ' \quad e \, k \, s \, e \, n \quad e \, e \, t \, s \quad \quad \quad 8 \quad t \, ' \, \bar{n} \, h \, \bar{n} \, t \, t \, e \, \bar{n} \quad \quad \quad 9 \quad n \, e \, \epsilon \, t \, ' \quad l \, t \quad \epsilon$$

$$10 \quad \overline{t} \, ' \quad u \quad k \, ' \quad \quad \quad 11 \quad k \, w \, e \, \epsilon \, n \, t \, ' \quad e \quad j \quad t \, s \quad \quad \quad 12 \quad \overline{t} \, ' \, \bar{n} \, n \, ai \quad l \quad t \, w \quad \bar{n}$$

$$13 \quad y \, l \quad h \quad n \, n \, \bar{q} \quad k \, n \quad \epsilon \quad \quad \quad 14 \quad \overline{y} \, \bar{Q} \, y \, l \quad u \quad \bar{n} \quad k \, ' \quad \quad \quad 15 \quad d \quad t \quad n \quad \bar{Q} \quad k \, ' \quad$$





## EXPLANATION OF PLATE 21

### ADVERBS, PARTICLES, ETC.

- Fig. 1.—e he', so it is. 173-14.  
Fig. 2.—ō ye', under it. 101-6.  
Fig. 3.—ō lai', its top, on it. 103-13.  
Fig. 4.—ō dai', outside. 98-4.  
Fig. 5.—yō yī de', way north. 77-1.  
Fig. 6.—yī, right here.  
Fig. 7.—yō ōñ, over there, further. 127-14.  
Fig. 8.—yī bañ, other side. 133-4.  
Fig. 9.—l ba'ññ ha', both sides. 75-7.  
Fig. 10.—le ne ha', all. 83-4.  
Fig. 11.—l ta' ki, different kinds. 83-1.  
Fig. 12.—nūn kwī ye, underground. 75-8.  
Fig. 13.—nikts, slowly. 140-16.  
Fig. 14.—he ū', yes. 82-2.  
Fig. 15.—ha yī, those people. 171-19.

1 e h e €

2 u y e ' €

3 o l ai €

4 o d ai €

5 y o y I d e €

6 y I

7 y u u u €

8 y I b a u

9 l. b a € u u h a €

10 e n o h a €

11 l. t a ' k I

12 n u n k' wI y e

13 n I k l s

14 h uR €

15 h a y I







## EXPLANATION OF PLATE 22

### PRONOUNS, ADVERBS, ETC.

- Fig. 1.— *ca te'õn gelan*, he got for me.  
Fig. 2.— *ci ye' ye'*, my house. 141-6.  
Fig. 3.— *cõñk kwa' lag*, he did well. 104-6; 154-5.  
Fig. 4.— *ta din dji*, what for?  
Fig. 5.— *dĩ*, this. 74-9.  
Fig. 6.— *da sítis*, soon. 136-5.  
Fig. 7.— *ta'dji*, where? 182-3.  
Fig. 8.— *dõ*, not. 79-4.  
Fig. 9.— *tõ õ teiñ a*, water in front of. 77-7.  
Fig. 10.— *kae bí'*, tomorrow. 104-9.  
Fig. 11.— *k'ûn dít'*, some days ago. 137-5.  
Fig. 12.— *kûn dũnte*, close by. 79-6.  
Fig. 13.— *k'ûn dũñ*, yesterday. 128-7.  
Fig. 14.— *k'at de'*, soon. 96-4.  
Fig. 15.— *kwûn Lạñ*, enough. 77-8.







## EXPLANATION OF PLATE 23

### PREFIXES OF VERBS

- Fig. 1.—*ya' gôl gal*, he threw up. 142-3.  
Fig. 2.—*ye' tē' gûn yai*, he went in. 132-13.  
Fig. 3.—*wa' ôñ kâñ*, she gave him. 129-4.  
Fig. 4.—*wa nûn tēi bûñ*, it will blow through. 80-14.  
Fig. 5.—*Le ges 'a'*, it was encircling. 82-15.  
Fig. 6.—*na nûn dac*, come down.  
Fig. 7.—*na ca'*, I go about. 133-6.  
Fig. 8.—*nai 'ai bûñ*, it will be across.  
Fig. 9.—*na des bîl'*, he spilled. 123-2.  
Fig. 10.—*nûn s'ûs dâk k'e'*, he got up. 98-5.  
Fig. 11.—*nô ga 'ac*, he put along. 86-11.  
Fig. 12.—*benîl ke' e*, I have finished. 82-15.  
Fig. 13.—*bē dâL*, let us climb.  
Fig. 14.—*dâ' bes ya'*, he climbed up. 180-6.  
Fig. 15.—*de dâñ 'ac*, you put on the fire. 131-9.









## EXPLANATION OF PLATE 24

### PREFIXES OF VERBS

- Fig. 1.— ta te'ō būl, make soup (plu.). 123-13.  
Fig. 2.— ta gūt t'ats, they butchered. 175-4.  
Fig. 3.— te' nō dūg ge', we will put in water. 139-9.  
Fig. 4.— te'e nūn yac, come out.  
Fig. 5.— dje' gūl tcel, she split open. 129-3.  
Fig. 6.— kwa nō' te, look for it. 164-11.  
Fig. 7.— ka nac, it came up. 81-2.  
Fig. 8.— kwūn ye' gūl lat, it sank. 174-12.  
Fig. 9.— kwūt te' gūn yai, he went down. 116-5.  
Fig. 10.— ne sōl yañ, you (plu.) ate up. 136-16.  
Fig. 11.— ōc lañ', I will get. 137-2.  
Fig. 12.— na dic tea, let me eat a meal.  
Fig. 13.— dō kō gīs īñ, one couldn't see. 81-1.  
Fig. 14.— te't teL bañ, he walked lame. 133-6.  
Fig. 15.— di kwa'L siñ, he did this way. 79-12.







## EXPLANATION OF PLATE 25

### VERBAL PREFIXES, SUBJECTIVES AND OBJECTIVES

- Fig. 1.—*nō' cūL gal*, throw me. 133-4.  
Fig. 2.—*ne 'ō dūñ*, you will die. 177-4.  
Fig. 3.—*ya' tc' kw neL iñ'*, they saw him.  
Fig. 4.—*tc'e nō' nūñ a ne*, he killed us. 117-6.  
Fig. 5.—*na tc'ō' Lō*, set snares (plu. imp.). 108-2.  
Fig. 6.—*tc' nūn yai*, he came there. 142-14.  
Fig. 7.—*sī yī ne*, I stand.  
Fig. 8.—*gūn nes*, it became long. 87-1.  
Fig. 9.—*gūt tc'añ'*, he shot. 110-13.  
Fig. 10.—*gūL tcat*, he shouted. 165-9.  
Fig. 11.—*ka' dūt tca'*, well, let us bury. 149-7.  
Fig. 12.—*tc'n ne gūL 'iñ*, he looked at it. 156-16.  
Fig. 13.—*ō't gūc*, look at them. 164-9.  
Fig. 14.—*tc' kūn nec*, he talked. 160-1.









## EXPLANATION OF PLATE 26

### VERBAL SUFFIXES

- Fig. 1.—*nin yañ kwañ ûñ gĩ*, it has cleared off. 168-1.  
Fig. 2.—*te' sññ ûñ gĩ*, he is standing.  
Fig. 3.—*nûn yil t'ô gûť*, when he stung. 156-15.  
Fig. 4.—*te' gûñ al' ya' nĩ*, he chewed it they say. 109-7.  
Fig. 5.—*te' kwL lõ 'ûť*, when he fooled them. 136-14.  
Fig. 6.—*te' nûn ya hûť*, when he came.  
Fig. 7.—*dô dûl sûs* he, we did not see. 116-18.  
Fig. 8.—*na te gûL 'al*, he stood them up along. 88-13.  
Fig. 9.—*kai 'ai bûñ*, it will grow up. 84-11.  
Fig. 10.—*L k'a' bûn dja'*, let it be fat. 85-14.

1 n i n y q ñ k'w q ñ n ñ z i

2 t'e' s i n ñ n z i

3 n ñ n y i l. t' o z ñ t

4 t'e' z ñ n n i y n e n i

5 t'e' k'w l n e ñ t

6 t'e' n i n y n h ñ t

7 q ñ q ñ l s ñ s h e

8 n n t e z ñ l. e q l.

9 k q l e. a i h ñ n

10 t. k' n ' -h ñ n q j n e





## EXPLANATION OF PLATE 27

### SUFFIXES OF VERBS

- Fig. 1.— *nif yan de'*, when it cleared off. 167-17.  
Fig. 2.— *kwûn tel tē lit*, it was becoming flat. 107-3.  
Fig. 3.— *nûc if' tē le*, I will look. 165-4.  
Fig. 4.— *be nac 'ai' tē le*, I will try it again. 139-1.  
Fig. 5.— *kûc na' dja'*, I want to live. 171-7.  
Fig. 6.— *te'ôL tēi dja'*, let him make. 140-2.  
Fig. 7.— *ka gûL 'aL kwañ*, they had sprung up along. 87-13.  
Fig. 8.— *te' tel bûL kwañ*, he had hung up. 176-3.  
Fig. 9.— *nes ya nē kwa nāñ*, they were ripe. 94-4.  
Fig. 10.— *n he ôL ka kwic*, we will spend the night probably. 105-3.









## EXPLANATION OF PLATE 28

### VERBAL STEMS

- Fig. 1.—*nạn dũl 'a'*, let us make a dam. 163-11.  
Fig. 2.—*na t gũl 'a'*, he stood it up. 76-6.  
Fig. 3.—*na nũfi 'ai'*, a fish-weir. 133-9.  
Fig. 4.—*dĩ 'ũnes 'a'*, up there in a row. 109-10.  
Fig. 5.—*be yaL 'ai'*, they tried it. 85-2.  
Fig. 6.—*ye' s'a ne*, house stands. 141-5.  
Fig. 7.—*nõ' 'ac nõ hĩfi*, put, you (plu.). 110-11.  
Fig. 8.—*nõ' 'fi bũfi*, you must stay (plu.). 105-2.  
Fig. 9.—*tc' nũfi 'fi'*, they sat down. 170-8.  
Fig. 10.—*nũc 'i ne*, I saw it. 137-1.  
Fig. 11.—*n dũl 'ifi'*, let us look. 168-1.  
Fig. 12.—*kwac 'i ne*, I always do that.  
Fig. 13.—*nõ hĩfi kwa'Liñ'*, you (plu.) do that. 113-4.

1    n   n   d   n   l   e   n   e     
 2    n   n   t'   s   n   l   e   n   e     
 3    n   n   n   n   n   e   n   i

4    d   l   e   n   n   e   s   e   n   e     
 5    b   e   y   n   l   e   n   i   e

6    y   e   e   s   e   n   n   e     
 7    n   n'   e   n   e   n   n'   h   i   n     
 8    n   n   o'   e   t'   l   h   n   n

9    t'e'   n   n'   n   e   t'   l   e     
 10    n   n'   e   t'   l   n   e     
 11    n   d   n   l   e   t'   n   e     
 12    k   w   n   e   e'   t'   n   e     
 13    n   n'   h   i   n'   k   w   n'   l   i   n   e





## EXPLANATION OF PLATE 29

### VERBAL STEMS

- Fig. 1.— nas 'ûts, he ran about. 134-3.  
Fig. 2.— tc' tes yai, he went. 116-9.  
Fig. 3.— k' ge 'ûts, he was shooting along. 144-10.  
Fig. 4.— Lûn tes yai, they came together.  
Fig. 5.— ca k'efi yai, sun went down.  
Fig. 6.— ni ya ye, I came there. 136-17.  
Fig. 7.— c gi yal, I am sleepy. 164-4.  
Fig. 8.— tc' nûn ya ya' ni, he came there they say. 101-10.  
Fig. 9.— tc' gûn yan', he ate of it. 129-5.  
Fig. 10.— tc'ô' yañ, you (plu.) eat. 148-6.  
Fig. 11.— tc' gûn yal, walk (sing. imp.).  
Fig. 12.— nô nûn yîñ, they were living. 160-12.  
Fig. 13.— tc'ûn yañ, you eat (sing. imp.). 125-7.  
Fig. 14.— tc't defî fiel', he stopped crying. 148-4.

1 n n s e n t s

2 te' t' e s y n i

3 k' k' e e q t s

4 b n n t' e s y n i

5

e n k' e n y n i

6 n t y n u y' e

7 e k' t y n i

8 te' t' n n y n e n i

9 te' k' n n y n u e

10 te' n' r y n n

11 te' k' n n y n l

12 n n i n v t n

13 te' n n y n n

14 te' t d e n y e i e







## EXPLANATION OF PLATE 30

### VERBAL STEMS

- Fig. 1.—*dō s dji' kw ya nē*, I do not like him. 136-13.  
Fig. 2.—*dō ha' ka nōn t yañ*, do not be ashamed. 141-8.  
Fig. 3.—*būL tē' gūt yīñ*, he doctored.  
Fig. 4.—*na' gis yīte*, he rested. 161-4.  
Fig. 5.—*na dūL yīc*, let us rest. 140-18.  
Fig. 6.—*wūñ gūt t yac*, some become old. 107-11.  
Fig. 7.—*kwōL yīc*, he whistled.  
Fig. 8.—*ūc yīt*, I will make a house. 168-6.  
Fig. 9.—*s'ūs yī'*, he made a house. 168-7.  
Fig. 10.—*gūL yī' ya' nī*, he built a house they say. 83-11.  
Fig. 11.—*tē'n nōL yōL*, let it blow. 80-13.  
Fig. 12.—*teūm meL yīts*, a stick he tied. 169-5.  
Fig. 13.—*kwūn tin yōt*, they ran after him.

1 d o s d j i e k e y a u u e

2 d o h a e k' a n o' n l y d n

3 b a l e' k a t t y i n

4 n a e k' i s y i t e'

5 n n d a l y i e

6 w u n k a l t y n e

7 s w a l l y i e

8 a e y i t

9 s' a s v i k'

10 k a l y i e y a e n i

11 t e' n n o l y o l

12 t e n m m e i v i i s

13 k' w a n t' i n y o t





## EXPLANATION OF PLATE 31

### VERBAL STEMS

- Fig. 1.—ka na gûl lăc, she digs out.  
Fig. 2.—(û) na<sup>c</sup> te'e na lai, her eye she took out. 152-9.  
Fig. 3.—kwai<sup>c</sup> la<sup>c</sup> ya<sup>c</sup> nî, he did it they say.  
Fig. 4.—dî kwa<sup>c</sup> lăc, he did this way. 154-5.  
Fig. 5.—cô<sup>c</sup> gî la cê, I fixed it good. 76-12.  
Fig. 6.—bel get k'wûn nō' lăc, spear point put it on (pl. imp.). 133-8.  
Fig. 7.—k'wûn nûl lûc, put it on (sing. imp.).  
Fig. 8.—n tō lăL, let him sleep.  
Fig. 9.—cô<sup>c</sup> ôc le', I will fix good. 77-3.  
Fig. 10.—n tes laL ya<sup>c</sup> nî, he went to sleep they say. 83-4.  
Fig. 11.—nô hin n tō' lăL, you (plu.) go to sleep. 110-16.









## EXPLANATION OF PLATE 32

### VERBAL STEMS

- Fig. 1.—*tc'el le'*, he sang. 149-11.  
Fig. 2.—*na gûl le*, fish were swimming down. 128-12.  
Fig. 3.—*s'ûs lî'*, he became. 84-11.  
Fig. 4.—*tc'e gûl le'*, he commenced singing. 105-11.  
Fig. 5.—*ka kô sî le*, I am sick.  
Fig. 6.—*nas lî'*, he tied up. 145-7.  
Fig. 7.—*tc'ûs lî'*, he caught in a noose. 108-4.  
Fig. 8.—*gûl lât*, it was burning. 173-16.  
Fig. 9.—*gûl lôs tē le*, you will bring. 136-5.  
Fig. 10.—*tc't tē lōs*, pulled repeatedly. 175-2.  
Fig. 11.—*wan tc' kô lûk*, he told about it. 161-18.  
Fig. 12.—*tal lōns*, soft. 179-12.  
Fig. 13.—*kwûl lûc ûn gi*, it looks like. 170-14.

•

[illegible]
$$t \quad t^{\prime} \quad v \quad k \quad n \quad l \quad e \quad \bullet \quad \bar{v} \quad k^{+} \quad n \quad k \quad \bar{v} \quad s \quad i \quad i \quad e$$

U n u x i r e t' u s i z

z	0	1	e	1'	10	z
0	0	0	0	0	0	0
1	0	1	0	1	1	1
2	0	0	1	0	0	2
3	1	0	0	1	1	3
4	0	1	1	0	0	4
5	1	1	0	0	1	5
6	0	0	1	1	0	6
7	1	0	0	1	1	7
8	0	1	1	0	0	8
9	1	1	0	0	1	9

[illegible]





### EXPLANATION OF PLATE 33

#### VERBAL STEMS

- Fig. 1.—*tc'geL na'*, he roasted.  
Fig. 2.—*bee na'*, I will roast. 168-16.  
Fig. 3.—*kũc na'*, I want to live. 182-5.  
Fig. 4.—*na cõL na bũũ*, you must examine me. 166-10.  
Fig. 5.—*ta ya' õ naũ*, let them drink. 123-6.  
Fig. 6.—*tc't tũg gũn nĩ*, it makes a noise.  
Fig. 7.—*tc't tũg gũn nĩ*, it thundered. 77-10.  
Fig. 8.—*ka gũn nạc*, he came up. 75-2.  
Fig. 9.—*he ũ' tc'n nĩ*, yes he said. 82-2; 102-8.  
Fig. 10.—*gũn Lạũ*, became many. 83-14.  
Fig. 11.—*gũn ỉa ne*, have become many. 169-10.

1      t'e'ke l.   n   n   e      2      l      e      e   n   n   e      3      k'   u   e   n   n   e

4      n   a   e   o   l.   n   n   b,   u   n

6      t'e'i   l'   u   n   n   i   n   i      7      t'e'l   t'   u   n   n   n   i      e

8      k'   n   n   u   n   n   i      e      9      n   i   n   e   l'e'i   n   n   i



10      n   u   n   l.   i      n      11      n   u   n   n.   a   n   e







## EXPLANATION OF PLATE 34

### VERBAL STEMS

- Fig. 1.—bí nǝ' lǝ', soak them (imp. plu.). 110-6.  
Fig. 2.—bí nǝ gǝl lǝk, they soaked them. 179-1.  
Fig. 3.—na nǝn lǝt, jump across. (imp. sing.).  
Fig. 4.—tǝ'e nan lǝ, he ran out. 142-6.  
Fig. 5.—n lǝts, it is stout. 78-12.  
Fig. 6.—tǝ'ǝl tǝsǝn, he found. 97-4.  
Fig. 7.—(dǝ ha<sup>c</sup>) tǝ'ǝl tǝsǝ ne, he did not find.  
Fig. 8.—gǝl tǝsǝi, it was dry. 123-4.  
Fig. 9.—dǝ gǝl sǝn, it was never found. 179-6.  
Fig. 10.—nǝn sǝt, sit down (sing. imp.). 140-18.  
Fig. 11.—kwǝn sǝt, deep water. 74-10.







## EXPLANATION OF PLATE 35

### VERBAL STEMS

- Fig. 1.— nǎ sǎl, I am sweaty.  
Fig. 2.— dǎl tsǎ, blue. 113-13.  
Fig. 3.— be nǎ' sǎñ, you hide (plu. imp.). 113-4.  
Fig. 4.— tǎ' tǎl sǎñ, he hung up. 176-13.  
Fig. 5.— dǎ kw ne sǎñ, I was insensible. 182-17.  
Fig. 6.— tǎt dǎl sǎs, we dragged out.  
Fig. 7.— tǎ' gǎn sǎt, he pounded up. 80-5.  
Fig. 8.— ǎs sǎt, I will pound. 110-3.  
Fig. 9.— k' gǎn sǎt, she pounded. 135-9.  
Fig. 10.— na ca', I go about. 133-6.  
Fig. 11.— tǎ' gǎn cai, she buried in ashes. 129-2.  
Fig. 12.— k'wǎt tǎ'e ya cǎ', they spit on. 154-14.  
Fig. 13.— ka tǎ' gǎc cǎ', they dug. 148-11.  
Fig. 14.— ka tǎ' gǎn cǎ', they were digging. 148-8.

1  $n$   $p$   $s$   $t$   $l$  2  $d$   $u$   $l$   $cs$   $h$  3  $b$   $e$   $n$   $o$   $'$   $s$   $i$   $n$

4  $te'$   $t$   $e$   $l$   $s$   $u$   $\bar{n}$  5  $\bar{d}$   $\bar{u}$   $k$   $u$   $n$   $e$   $s$   $\bar{n}$   $\bar{n}$  6  $t'$   $n$   $t$   $d$   $u$   $l$   $s$   $u$   $s$

7  $te'$   $k$   $\bar{u}$   $n$   $s$   $\bar{u}$   $t$  8  $\bar{u}$   $s$   $s$   $\bar{u}$   $t$  9  $k'$   $k$   $u$   $n$   $s$   $u$   $t$

10  $n$   $u$   $e$   $n$   $e$  11  $te'$   $k$   $u$   $n$   $e$   $n$   $i$  12  $te'$   $y$   $n$   $e$   $e$

13  $k'$   $ka$   $te'$   $k$   $\bar{u}$   $e$   $e$   $\eta$  14  $k'$   $a$   $te'$   $k$   $\bar{u}$   $n$   $e$   $i$   $e$







## EXPLANATION OF PLATE 36

### VERBAL STEMS

- Fig. 1.— n cōn ne, it is good. 77-4.  
Fig. 2.— nL cūñ', black. 86-2.  
Fig. 3.— gūL cūñ', it smells good.  
Fig. 4.— kwa gūt tēūt', they fed her. 151-15.  
Fig. 5.— dō naL ban ne, he was not lame. 134-5.  
Fig. 6.— dō yī he' e, I am tired. 98-1.  
Fig. 7.— nīñ dōñ he' ūñ, are you tired (sing.). 141-1.  
Fig. 8.— dō yī de he' e, we are tired. 116-17.  
Fig. 9.— nō hīñ na' be, swim (plu. imp.). 111-2.  
Fig. 10.— ya' te' be, they were picking.  
Fig. 11.— t bōe, round. 80-1.  
Fig. 12.— cōñk tūt būl, well it rains. 74-4.  
Fig. 13.— te t bīl', it rained. 81-1.

[illegible]
$$\left[ \begin{array}{c} \text{O} \\ \text{C} \\ \text{O} \end{array} \right]_{\text{O}}$$
$$1 \quad n \quad \epsilon \quad \tilde{\alpha} \quad n \quad n \quad \epsilon \quad \omega \quad n \quad T, \quad \epsilon \quad \tilde{\eta} \quad \eta$$

3  
1  
1  
2  
2  
3

[illegible]

1.  $\frac{1}{2}$   
 2.  $\frac{1}{4}$   
 3.  $\frac{1}{8}$   
 4.  $\frac{1}{16}$   
 5.  $\frac{1}{32}$   
 6.  $\frac{1}{64}$   
 7.  $\frac{1}{128}$   
 8.  $\frac{1}{256}$   
 9.  $\frac{1}{512}$   
 10.  $\frac{1}{1024}$   
 11.  $\frac{1}{2048}$   
 12.  $\frac{1}{4096}$   
 13.  $\frac{1}{8192}$   
 14.  $\frac{1}{16384}$   
 15.  $\frac{1}{32768}$   
 16.  $\frac{1}{65536}$   
 17.  $\frac{1}{131072}$   
 18.  $\frac{1}{262144}$   
 19.  $\frac{1}{524288}$   
 20.  $\frac{1}{1048576}$   
 21.  $\frac{1}{2097152}$   
 22.  $\frac{1}{4194304}$   
 23.  $\frac{1}{8388608}$   
 24.  $\frac{1}{16777216}$   
 25.  $\frac{1}{33554432}$   
 26.  $\frac{1}{67108864}$   
 27.  $\frac{1}{134217728}$   
 28.  $\frac{1}{268435456}$   
 29.  $\frac{1}{536870912}$   
 30.  $\frac{1}{1073741824}$   
 31.  $\frac{1}{2147483648}$   
 32.  $\frac{1}{4294967296}$   
 33.  $\frac{1}{8589934592}$   
 34.  $\frac{1}{17179869184}$   
 35.  $\frac{1}{34359738368}$   
 36.  $\frac{1}{68719476736}$   
 37.  $\frac{1}{137438953472}$   
 38.  $\frac{1}{274877906944}$   
 39.  $\frac{1}{549755813888}$   
 40.  $\frac{1}{1099511627776}$   
 41.  $\frac{1}{2199023255552}$   
 42.  $\frac{1}{4398046511104}$   
 43.  $\frac{1}{8796093022208}$   
 44.  $\frac{1}{17592186044416}$   
 45.  $\frac{1}{35184372088832}$   
 46.  $\frac{1}{70368744177664}$   
 47.  $\frac{1}{140737488355328}$   
 48.  $\frac{1}{281474976710656}$   
 49.  $\frac{1}{562949953421312}$   
 50.  $\frac{1}{1125899906842624}$   
 51.  $\frac{1}{2251799813685248}$   
 52.  $\frac{1}{4503599627370496}$   
 53.  $\frac{1}{9007199254740992}$   
 54.  $\frac{1}{18014398509481984}$   
 55.  $\frac{1}{36028797018963968}$   
 56.  $\frac{1}{72057594037927936}$   
 57.  $\frac{1}{144115188075855872}$   
 58.  $\frac{1}{288230376151711744}$   
 59.  $\frac{1}{576460752303423488}$   
 60.  $\frac{1}{1152921504606846976}$   
 61.  $\frac{1}{2305843009213693952}$   
 62.  $\frac{1}{4611686018427387904}$   
 63.  $\frac{1}{9223372036854775808}$   
 64.  $\frac{1}{18446744073709551616}$   
 65.  $\frac{1}{36893488147419103232}$   
 66.  $\frac{1}{73786976294838206464}$   
 67.  $\frac{1}{147573952589676412928}$   
 68.  $\frac{1}{295147905179352825856}$   
 69.  $\frac{1}{590295810358705651712}$   
 70.  $\frac{1}{1180591620717411303424}$   
 71.  $\frac{1}{2361183241434822606848}$   
 72.  $\frac{1}{4722366482869645213696}$   
 73.  $\frac{1}{9444732965739290427392}$   
 74.  $\frac{1}{18889465931478580854784}$   
 75.  $\frac{1}{37778931862957161709568}$   
 76.  $\frac{1}{75557863725914323419136}$   
 77.  $\frac{1}{151115727451828646838272}$   
 78.  $\frac{1}{302231454903657293676544}$   
 79.  $\frac{1}{604462909807314587353088}$   
 80.  $\frac{1}{1208925819614629174706176}$   
 81.  $\frac{1}{2417851639229258349412352}$   
 82.  $\frac{1}{4835703278458516698824704}$   
 83.  $\frac{1}{9671406556917033397649408}$   
 84.  $\frac{1}{19342813113834066795298816}$   
 85.  $\frac{1}{38685626227668133590597632}$   
 86.  $\frac{1}{77371252455336267181195264}$   
 87.  $\frac{1}{154742504910672534362390528}$   
 88.  $\frac{1}{309485009821345068724781056}$   
 89.  $\frac{1}{618970019642690137449562112}$   
 90.  $\frac{1}{1237940039285380274899124224}$   
 91.  $\frac{1}{2475880078570760549798248448}$   
 92.  $\frac{1}{4951760157141521099596496896}$   
 93.  $\frac{1}{9903520314283042199192993792}$   
 94.  $\frac{1}{19807040628566084398385987584}$   
 95.  $\frac{1}{39614081257132168796771975168}$   
 96.  $\frac{1}{79228162514264337593543950336}$   
 97.  $\frac{1}{158456325028528675187087900672}$   
 98.  $\frac{1}{316912650057057350374175801344}$   
 99.  $\frac{1}{633825300114114700748351602688}$   
 100.  $\frac{1}{1267650600228229401496703205376}$   
 101.  $\frac{1}{2535301200456458802993406410752}$   
 102.  $\frac{1}{5070602400912917605986812821504}$   
 103.  $\frac{1}{10141204801825835211973625643008}$   
 104.  $\frac{1}{20282409603651670423947251286016}$   
 105.  $\frac{1}{40564819207303340847894502572032}$   
 106.  $\frac{1}{81129638414606681695789005144064}$   
 107.  $\frac{1}{162259276829213363391578010288128}$   
 108.  $\frac{1}{324518553658426726783156020576256}$   
 109.  $\frac{1}{649037107316853453566312041152512}$   
 110.  $\frac{1}{1298074214633706907132624082305024}$   
 111.  $\frac{1}{2596148429267413814265248164610048}$   
 112.  $\frac{1}{5192296858534827628530496329220096}$   
 113.  $\frac{1}{10384593717069655257060992658440192}$   
 114.  $\frac{1}{20769187434139310514121985316880384}$   
 11

$$\begin{array}{ccccccc} \bar{\psi} & \bar{q} & \bar{\nu}_\tau & l & e^+ & e^- & n \\ q & \nu_\tau & I & h & e^- & e^+ & p \end{array}$$
[illegible]
$$10 \quad \tilde{x} = \epsilon \quad 1 \quad 1 \quad 1 \quad 1$$

II t h c e T<sub>n</sub> e o n k i u l l n i I N f v { h r } e

12 e ô ì k í 1 1 1 ì 1

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 10





## EXPLANATION OF PLATE 37

### VERBAL STEMS

- Fig. 1.—*de mûñ' (din bûñ')*, it was full. 129-12.  
Fig. 2.—*te't tel bûl*, he hung it up.  
Fig. 3.—*tûc bûl*, I will hang up. 115-6.  
Fig. 4.—*te' wô' bûl*, carry it (plu. imp.). 110-15.  
Fig. 5.—*ta te'ûm mûl*, cook mush (sing. imp.). 163-14.  
Fig. 6.—*ta te'ô' bûl*, cook mush (plu. imp.). 123-13.  
Fig. 7.—*sûn da*, you stay (sing. imp.). 79-7.  
Fig. 8.—*te'n nes dai*, he sat down. 161-10.  
Fig. 9.—*nûc dac*, I will dance. 103-9.  
Fig. 10.—*te'e na gût dac*, he came out again. 149-13.  
Fig. 11.—*te' gûn dac kwaf*, he had danced.  
Fig. 12.—*ka si del'*, we came up. 141-2.  
Fig. 13.—*Le ne' ha' te'n nûn del'*, all came up.

1 d e m u n e

3 1 1 1 1

1.  $U$  is a unitary operator.

2 1 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

6 5 4 3 2 1

$\frac{d}{dx} \left( x^2 \right) = 2x$

10.  $\frac{1}{2} \pi$  11.  $\frac{1}{2} \pi$  12.  $\frac{1}{2} \pi$  13.  $\frac{1}{2} \pi$  14.  $\frac{1}{2} \pi$  15.  $\frac{1}{2} \pi$

11    t'   E   ñ   n   d   n   e   k'   w   u   ñ

$12$   $k'$   $n$   $s$   $i$   $d$   $e$   $l$   $e$   $13$   $i$   $e$   $n$   $e$   $h$   $a$   $e$   $t$   $e'$   $n$   $u$   $n$   $q$   $e$   $l$   $e$







## EXPLANATION OF PLATE 38

### VERBAL STEMS

- Fig. 1.— *te't tes dē le*, they went on. 108-12.  
Fig. 2.— *tī dūl*, let us go. 141-6.  
Fig. 3.— *te' na te'ūL deo*, she washed them.  
Fig. 4.— *cūn dī ne*, the sun shines. 182-13.  
Fig. 5.— *n dō' būn*, it will not be. 80-13.  
Fig. 6.— *n dō' ye*, there is none. 109-1.  
Fig. 7.— *ce dūn ne*, I died.  
Fig. 8.— *te'ūL dūk*, crack them (sing. imp.). 138-2.  
Fig. 9.— *ce e dūn tē le*, I will die. 177-5.  
Fig. 10.— *te' te' gūn tal'*, he stepped in water.  
Fig. 11.— *te't tañ 'ūn gī*, he is eating. 174-1.

1      (e' t' e' s' d' e' )      e'      2      t' i' d' u' L

3      t' e' n' n' t' u' L'      d' e' k'      4      i' n' n' d' i' b' e'

5      n' d' n' e' b' u' n'      6      n' d' n' e' y' e'      7      e' e' d' n' n' b' e'

8      t' e' n' L' d' n' k'      9      e' e' d' n' n' t' e' e' i' e'

10      t' e' e' n' e' e' n'      t' n' i' e'      11      t' e' t' t' e' n' n' e' n' n' z' i'





## EXPLANATION OF PLATE 39

### VERBAL STEMS

- Fig. 1.—ka kə nǝ'te, look for him. 160-1.  
Fig. 2.—de diē tǝñ, I put in the fire.  
Fig. 3.—be gũn tǝg, he taught. 122-11.  
Fig. 4.—tein nǝ' nũn tǝc, hide yourself (sing.).  
Fig. 5.—nes tǝñ, it is lying. 182-3.  
Fig. 6.—nǝ'tǝc, put it (plu. imp.). 168-13.  
Fig. 7.—nũn s'ũs tǝñ, he picked him up. 179-14.  
Fig. 8.—tǝn nas tǝñ, she took out again. 129-2.  
Fig. 9.—cǝ sǝ tǝ ne, I lay. 175-16.  
Fig. 10.—nǝ nũl tǝ ne, he put it.  
Fig. 11.—na tǝ'õl tǝñ', he snapped it

1 k' a k' n ō ' l e

2 d e d i e t , n

3 h e k' ō n t' e a

4 t e l n n ō e n ō n t' i e

5 n e s t' i n

6 n ō ' t i e t n ō n s' n s t i n

8 t' i n n s t' i n

9 e t s i t' i n e

10 n ō n i l t' i n e









## EXPLANATION OF PLATE 40

### VERBAL STEMS

- Fig. 1.—*gûl tûk*, it burst. 182-5.  
Fig. 2.—*k'ûl t'ôt'*, he sucked it. 159-2.  
Fig. 3.—*ûs tûn e*, it is cold.  
Fig. 4.—*s dji ôl tûk*, kill me (plu. imp.). 151-8.  
Fig. 5.—*te'ic t'a tē le*, I will feather. 156-5.  
Fig. 6.—*nûn t'ag*, it flew. 182-11.  
Fig. 7.—*ac t'e ye*, I am.  
Fig. 8.—*ûs t'e ye'*, it is cooked. 163-15.  
Fig. 9.—*na kw nic t'a kwic*, I am going to sling at him. 122-14.  
Fig. 10.—*nô hîf tōl t'e*, you cook (plu. imp.). 167-16.  
Fig. 11.—*nô hîf te'n nōl t'as*, you cut them (plu. imp.). 166-15.  
Fig. 12.—*te'n ne sîl t'ats*, I cut it up. 138-15.

U. J. u. + c. s. i. s. u.

[ , w w , ' ] f u

1 k' u L. i' u k 2 k' u L. i' u i' 3 u s i' u n e

4 s d j i u i i' u k 5 i' i' e i' u i' i' j e

6 u u i' u u i' 7 u e i' i' u e 8 u s i' i' u e'

9 u n k e u i' e i' u k w e 10 u u h i u i' o i' i' e

11 u o h i u i' u o i' i' s 12 i' i' u e s i' L. i' u i' s





## EXPLANATION OF PLATE 41

### VERBAL STEMS

- Fig. 1.—k' gûl ts'eg, he ate soup.  
Fig. 2.—nûn yîl tsûl, it beat against. 86-12.  
Fig. 3.—tân nas djôl', he rolled out of fire. 147-9.  
Fig. 4.—na dûl tcañ kwañ, he had eaten.  
Fig. 5.—na tc'al, he was chewing. 143-3.  
Fig. 6.—na dic tcan ne, I ate. 171-9.  
Fig. 7.—s'ûs tc'añ, he shot it.  
Fig. 8.—ûl tcî, make it. 79-8.  
Fig. 9.—tc'gûl tcil, he kept making. 144-8.  
Fig. 10.—ô tc'ô nî tca ne, I left him. 117-17.  
Fig. 11.—tc' gûn tee ge, he cried.  
Fig. 12.—tc' te gûs tcî', nearly daylight.  
Fig. 13.—tc'ûñ gûn tce', he was angry.

U'Y V G<sub>4</sub> F FJH A'V A'ZCH FJH' V'U' :

[ : : : : : ] : : :

1 k' g' ũ l' t' s' e' e' 2 n' ũ n' y' l' l' t' s' ũ l' 3 t' q' m' a' ~ d' j' ũ l' e'

4 n' a' d' ũ l' t' e' a' ũ k' w' n' ũ 5 n' a' t' e' a' l' 6 n' a' d' i' e' t' e' a' n' n' e'

7 s' ũ s' t' e' a' ũ 8 ũ l' t' e' l' 9 g' ũ l' t' e' l' j'

10 ũ t' e' ũ n' l' t' e' n' n' n' e' 11 t' e' g' ũ n' t' e' e' g' e'

12 t' e' t' e' g' ũ s' t' e' l' e' 13 t' e' ũ ũ g' n' n' t' e' n' e'







## EXPLANATION OF PLATE 42

### VERBAL STEMS

- Fig. 1.—*cí te sĭL teöl'*, I stole.
- Fig. 2.—*gŭl teüt*, he caught them.
- Fig. 3.—*na gŭL teŭL ya' nĭ*, he got wet they say. 126-16.
- Fig. 4.—*te'eL teüt*, stretch it out (sing. imp.). 77-13.
- Fig. 5.—*te'eL tei' ya' nĭ*, he caught it they say. 142-5.
- Fig. 6.—*na ga kwăñ*, he had walked. 154-12.
- Fig. 7.—*nŭn ie gəl*, let me chop.
- Fig. 8.—*nŭn sŭL gal*, you beat? 129-10.
- Fig. 9.—*te't gañ'*, it is mouldy. 167-16.
- Fig. 10.—*te' gŭn ga ne*, he killed.
- Fig. 11.—*k'e gŭL gal'*, she threw away.
- Fig. 12.—*na' deL gəl kwăñ*, he had poured. 125-13.

U^i V C\ r, f C, L V\ a^i c^i f^i M^i, V\ c

[C D),, y] ^ L ^,

l e i t' e s i L t e o i e z n u j l e i t

3 n a n n l t e u L 4 ( c ' v j t e n t 5 t e ' v L t e i ^ y i e n i

6 n a n n k w q n 7 n n n i e n a L

8 n n n s i L n n l 9 t i' t n n e 10 t e n n n n n e

11 k ' e n n L n n i e 12 n ^ e n e t n n i k' w n n





## EXPLANATION OF PLATE 43

### VERBAL STEMS

- Fig. 1.—*gúl ge le*, it was getting late.  
Fig. 2.—*n hóc t ge'*, let me see you. 142-6.  
Fig. 3.—*te't tes gĩĩ*, he carried. 101-9.  
Fig. 4.—*te'ò na gút gúc*, he looked back. 87-13.  
Fig. 5.—*te'òn t gets'*, he looked at them.  
Fig. 6.—*te' nō dūg ge'*, we will put in water. 139-9.  
Fig. 7.—*te'n nūg gúc*, she brings in. 180-9.  
Fig. 8.—*nĩ gĩn ne'*, I bring. 138-14.  
Fig. 9.—*te'n nūĩ nĩĩ*, he brought. 135-11.  
Fig. 10.—*səl gĩn ya' nĩ*, he killed they say. 141-13.  
Fig. 11.—*Ləl yĩts'*, he tied together. 174-15.









## EXPLANATION OF PLATE 44

### VERBAL STEMS

- Fig. 1.—tc' qal ya' nī, he walked they say. 93-12.  
Fig. 2.—t gūn gūts', it was getting thick. 126-11.  
Fig. 3.—be nē sīL git de, I am getting afraid. 130-15.  
Fig. 4.—tc' ge qōt, they stretched. 114-1.  
Fig. 5.—tc'e nail gat de, he sewed up. 122-13.  
Fig. 6.—nō na'ñ fīat, he untied it. 122-15.  
Fig. 7.—ūñ qōt, spear it. 128-12.  
Fig. 8.—nūn ūn dūk k'e', get up (sing. imp.). 100-3.  
Fig. 9.—dō tc't tūL k'ūc, it did not lighten. 74-6.  
Fig. 10.—n hes ka nī, we spent the night. 167-7.  
Fig. 11.—nō na nī kats', I fell back. 182-16.







## EXPLANATION OF PLATE 45

### VERBAL STEMS

- Fig. 1.— *ha yi kō wa kac*, that one give him (a basket of food).  
Fig. 2.— *na' ke'*, bathe (plu. imp.). 172-14.  
Fig. 3.— *bel ke'*, he finished.  
Fig. 4.— *nōc kūt*, I want to swallow you. 181-14.  
Fig. 5.— *te' gūl kūt*, he swallowed. 109-7.  
Fig. 6.— *Le ne' ha' te'n nūl kūt*, all they came. 154-12.  
Fig. 7.— *dō ha' te't teL kūt*, they did not go. 167-17.  
Fig. 8.— *dō ha' eō dōL kūt*, do not ask me. 166-8.  
Fig. 9.— *nūn neL k'ai ya' nī*, he hit they say. 156-14.  
Fig. 10.— *gūl k'ān*, there was a fire. 162-13.  
Fig. 11.— *ūl k'āñ*, make a fire. 127-11.  
Fig. 12.— *t gūñ k'ōte'*, it got sour.

U<sup>h</sup> V C<sup>h</sup> + PU<sup>h</sup> A<sup>h</sup> A-CH<sup>h</sup> t<sup>h</sup> t<sup>h</sup> VO

[ ɔ<sup>h</sup> ɔ<sup>h</sup> ɔ<sup>h</sup> ] L<sup>h</sup> ɔ<sup>h</sup>

1 h n y t k<sup>h</sup> ow n<sup>h</sup> k<sup>h</sup> n e 2 n n<sup>h</sup> k<sup>h</sup> e e

3 h e t k<sup>h</sup> e e t n o e k n t 4 t<sup>h</sup> t<sup>h</sup> ɛ<sup>h</sup> ŋ t k<sup>h</sup> n t

6 l e n e<sup>h</sup> h a<sup>h</sup> tɛ<sup>h</sup> n n t k<sup>h</sup> ŋ t 7 d o h n e<sup>h</sup> tɛ<sup>h</sup> t<sup>h</sup> e l k<sup>h</sup> ŋ t

8 d o h n e<sup>h</sup> e o d o l k<sup>h</sup> ɔ t 9 n n n n e l k n i y n e n t

10 ɛ ŋ t k<sup>h</sup> n n 11 ŋ l k<sup>h</sup> a ŋ 12 t<sup>h</sup> ɛ<sup>h</sup> ŋ ŋ k<sup>h</sup> ŋ t e e





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PHONETIC ELEMENTS OF THE  
DIEGUEÑO LANGUAGE

BY

A. L. KROEBER AND J. P. HARRINGTON

An opportunity afforded A. L. Kroeber to hear Diegueño as spoken by Rosendo Curo of Mesa Grande, San Diego County, California, in June, 1912, revealed great resemblances and some striking differences between its sounds and those of its sister tongue Mohave, likewise of Yuman family, of which a laboratory analysis had previously been made.<sup>1</sup> On the whole, the experience gained with Mohave made the phonetic elements of Diegueño seem easily recognizable.<sup>2</sup> Independent observations on the phonetics of the language courteously furnished by Mr. J. P. Harrington, who has had a brief opportunity to hear Diegueño, have been added as notes initialled by him.

POSITION

The points of articulation for consonants in Diegueño are the same as in Mohave. The palatal and velar stops, *k* and *q*, *kw* and *qw*, are perhaps less clearly distinguished. The dental and palatal-alveolar stops, *t* and *ʈ*, are formed as in Mohave, and

<sup>1</sup> Present series, x, 45-96, 1911.

<sup>2</sup> Some Diegueño words recorded a number of years previously from Salidon and Onorato of San Felipe, then at Pala, were also available. T. T. Waterman has a phonetic key in the introduction, and a number of words in the body, of his "Religious Practices of the Diegueño Indians" (Present series, viii, 271-358, 1910) and J. P. Harrington some notes in Journ. Am. Folk-Lore, xxi, 324, 1908. There are said to be two Diegueño dialects, the southern being spoken at Manzanita, Campo, and La Posta. The northern dialect is the only one referred to here.

occur in the same stems; only in the word for earth, number 49 in the appended list of words, was palatal *t̪* heard in Mohave and interdental *t* in Diegueño. No general transposition of any sound to a more forward or backward formation is noticeable, except the uniform change of Mohave *ð* to Diegueño *y*.

#### STOPS

The Diegueño stops, which are *p*, *t*, *t̪*, *k*, *kw*, *q*, *qw*, with which can be reckoned the affricative *tc*, are subject to the same rule that applies in Mohave and in a number of other native American languages: when initial or medial, they are half voiced, the explosion but not the occlusion being sonant; when final or followed by another consonant, they are entirely unvoiced and more strongly aspirated.

The stops on the whole show little change between the two languages. There are a few instances of stop and nasal interchanging; but they are uncommon. Such are: Mohave *t* becomes Diegueño *n* (nos. 1, 2 of the list)<sup>3</sup>; and Mohave *m* becomes Diegueño *p* (3, 4, 15, 30).<sup>4</sup>

#### NASALS

*M*, *n*, and *ny* also usually coincide in Mohave and Diegueño. Compare numbers 5, 10, 13, 18, 21, 22, 27, 29, 36, 37, and others in the list.

#### FRICATIVES

In this class of sounds the two dialects show more difference, Mohave *θ*, *ð*, and *v* being lacking in Diegueño.

<sup>3</sup> Or may it be that Diegueño *ex-inn*, recorded by me in its predicative form as *ex-innk* or *ex-inn<sup>h</sup>k*, contains an *n*-sound cognate with that of Mohave *asentik*, it is one! Mohave *sito*, Cocopa *cit*, would then be regarded as a separate word, although perhaps of the same origin. Or perhaps the Diegueño *nn* stands for the Mohave *nt*; this would be the reverse of what happens in no. 30 of the list, where a long nasal in Mohave is represented in Diegueño by nasal plus stop. As regards Diegueño *exann*, it is probably the representative of Mohave *axot*, Yuma *axot*, but one might also think of connection with Mohave *ta-ahana*, real, good.—J. P. H.

<sup>4</sup> Perhaps this change occurs most frequently at the beginning or end of a word. Cf. the change of *v* to *p* mentioned under Fricatives below. The change also occurs within Mohave (cf. *-motam* and *-pote*, negative suffixes) and probably also within Diegueño.—J. P. H.

Mohave surd interdental  $\theta$  is always  $s$  in Diegueño (4-10, 51).<sup>5</sup> Diegueño  $s$ , however, corresponds also to Mohave  $s$  (11-16). But in a few words (1, 17, 18) Mohave  $s$  becomes  $x$  in Diegueño.<sup>6</sup> This  $x$  seems to be formed more anteriorly than the ordinary  $x$  of Diegueño, which has a  $k$  or  $h$  articulation. It might therefore be distinguished as  $x$ .

It should be stated that the word for eagle was heard as *espa* as well as *ex-pa* from two of the Diegueño informants. Mr. Waterman writes *expa*.<sup>7</sup>

Diegueño  $s$  seems "sharper" than Mohave, that is, less like *sh*.

The Mohave sonant interdental fricative  $\delta$  is  $y$  in all corresponding Diegueño stems determined (19-21, 51, 73).

Another voiced fricative of Mohave, bilabial  $v$ , was normally heard as  $w$  in Diegueño (23-27, 58). Dr. Waterman also writes it  $w$ . When the ending *auva* becomes *au* in Diegueño (33, 64), it probably stands for *auw*, which would be regular, final vowels being frequently slurred or lost in Diegueño. In some instances (67, 73) Diegueño  $p$  seems to stand for  $v$ .<sup>8</sup> The word for no (72), *umau*, Mohave *vara*, appears to show the equivalence  $v > m$ ; but this is probably fallacious, as the correspondence  $o > au$  is well established, which would give as the Mohave equal *umo* or *mo*, and this is apparently represented in that dialect by the negative suffix *-moṭe*.

It should be added that the single word "where" (22), Mohave *maki*, was heard in Diegueño as *maive*, with distinct bilabial  $v$ .<sup>9</sup>

The surd palatal or velar fricative  $x$  must also be mentioned here. In Mohave a corresponding sound was written both  $h$  and  $x$ , but was finally regarded as a breath accompanied by some pos-

<sup>5</sup> Mohave is the only Yuman language of the Central group which has  $\theta$  instead of  $s$ .—J. P. H.

<sup>6</sup> Cocopa has  $c$  or palatalized  $s$ , showing an intermediate stage between  $s$  and  $x$ .—J. P. H.

<sup>7</sup> Present series, VIII, 314, 1910.

<sup>8</sup> This change appears to occur frequently at the beginning or end of a word. Cf. the change of  $m$  to  $p$  (under Stops above).—J. P. H.

<sup>9</sup> Mr. Isidro Nejo of Mesa Grande pronounced the word *maipe*, with  $p$ , when articulating slowly. Perhaps we have here to deal with some change such as in Shoshonean, where an informant will insist that such a word as *pa*, water, never can become *va*, and yet in talk will be heard to say *va* when the conditions require it.—J. P. H.

terior narrowing rather than a true fricative, as appears to be likewise the case in a number of other Californian languages. Hence the orthography *h* was adopted. In Diegueño the corresponding sound (2, 4, 9, 36, 38, 44, 47, 55, 56, 58, 75) is much more clearly of fricative character, and was therefore written, as also by Dr. Waterman, *x*.<sup>10</sup>

The labialized fricative *xw* corresponds to *x* as *kw* does to *k*. Perhaps *X* and *Xw*, paralleling velar *q* and *qw*, should also be distinguished. A sound similar to *xw* was found in Mohave, but seemed to be only *h* followed by a short *o* or *u* (32, 56, 62, 69). Possibly the orthography *hw* or *xw*, as in Diegueño, would be more accurate.

#### LATERALS

Mohave has two *l* sounds: *l* and *ly*. Diegueño has at least three: *l*, *ly* and *L*. Possibly *Ly* should be added.<sup>11</sup>

Mohave sonant palatalized *ly* corresponds, wherever the same stems could be compared, to Diegueño surd *L*, either unpalatalized (9, 11, 28-31, 34-37) or possibly palatalized (32, 33, 38). The only exceptions found, numbers 21 and 56, were recorded as sonant in Diegueño. These may be errors. The *L*, it should be added, is a spirant, not an affricative.

No regular Mohave equivalents have been determined for Diegueño voiced *l* and *ly*, which occur both medially and finally (4, 7, 13, 14, 39, 40, 41, 52, 63).<sup>12</sup> That they have not been found

<sup>10</sup> The Diegueño *x*, like that of the neighboring members of the Central group (Yuma, Maricopa and Cocopa) is much more fricative than its Mohave counterpart. A Yuma Indian living among the Mohave once very naively volunteered the information that the Yumas say *axa*, water, while the Mohaves say *aha*. These Yuman developments are almost exactly paralleled by the sound of Spanish *j* in various dialects of Spanish. In Californian and New Mexican Spanish the *j* is very *h*-like, and a Mohave renders this sound perfectly when he uses his Mohave *h* in talking Spanish. In certain dialects of old Spain, however, the *j* is very fricative, and I have felt when hearing it, as also in the case of the Yuma and Cocopa *x*, that it is articulated farther back in the mouth than is the *x* of German "ach."—J. P. H.

<sup>11</sup> Yuma and Cocopa have both voiced *l* and *ly* and voiceless *L* and *Ly*.—J. P. H.

<sup>12</sup> In 4, 7, 52 Diegueño has *-ly*, and Mohave has nothing. The fact that both *kw*i and *kw*ily were given as meaning stone led to the supposition that *-ly* is merely a separable suffix, but the informant insisted that *kw*ily(7) is the only word meaning salt, and that *kw*si(8) can mean salt under no circumstances but means to drink. The word meaning fly is

initially is not surprising, since very few Mohave words begin with either *l* or *ly*.

#### TRILLS

Diegueño and Mohave *r* occur in the same stems, as in numbers 3, 6, 61 of the list, but are differently formed. Diegueño *r* lacks the characteristic trill of the Mohave sound; it is soft, untrilled, and resembles English *r*. Dr. Waterman, who writes it *R*, calls it *surd*.<sup>13</sup> It occurs also in the following words: *kwæ-rau*, hot; *pitckara*, two stand; *meri*, penis; *menura*, hear; *kosmirai*, crazy; *ekurr*, far. In the last word it is lengthened, that is, prolonged, like Mohave *rr*.

Another *r*, which is distinctly trilled and very much like Mohave *r*, though the precise point of articulation was not determined, was found only in the words *karap*, hit him (imperative), and *expa uɽu*, bald eagle. Dr. Waterman describes this sound as trilled and made with the tip of the tongue close to the front of the palate.<sup>14</sup> He writes it *r*, but gives it in only a few words. Of these, *kwinyor*, red, was not found by the author, and *saïr*, buzzard, was heard as *sa'i*.<sup>15</sup>

#### SEMI-VOWELS

Diegueño *y* sometimes represents Mohave *ɰ*. In other stems it apparently is not the equivalent of this sound but of some other, probably *y*. No common stems in which *y* corresponds in the two languages have, however, been found.<sup>16</sup> Disregarding words in which *y* is not certain on account of neighboring *i*, it occurs in Diegueño in *yaip*, wind, *yuwil*, thigh, *oyuk*, outdoors, *kwayuk*, a lizard, *'uyel*, flea, and perhaps also in *yimi*, wild cat, very irregular, appearing as *zalesmo* in Yuma. In 39 Diegueño has *-l*, Mohave nothing. In 13 Diegueño appears to have either *l* or *n*; Isidro Nejo gave the pronunciation *kwan'mesap*. Nos. 40, 41, 63 appear to be very irregular.—J. P. H.

<sup>13</sup> Present series, VIII, 272, 1910.

<sup>14</sup> *Op. cit.*, 272.

<sup>15</sup> Recorded as *sa'i*, with no *-r*.—J. P. H.

<sup>16</sup> May it be that Mohave *Kwayu* and Diegueño *Kuyahomar*, name of a mythic being, share *y* in common?—J. P. H.

and yamatai, panther, though the latter has also been recorded as nyimatai, which may be more correct in view of a probable relationship to the Mohave stem nume.<sup>17</sup>

W occurs in Diegueño as the equivalent of Mohave bilabial v, probably also otherwise. While found in Mohave, it is rare in that language, and no certain correspondence of stems containing w have been determined between the two idioms. Thus Diegueño 'itcix, heart, seems to have no connection with Mohave 'iwa.

It need hardly be pointed out that kw and xw, like ly and ny, are only orthographies, and not combinations containing a simple w or y.

#### BREATHS AND GLOTTAL STOPS

The soft, faint h sound of Mohave, written ' , and frequent as the sign of the third person, recurs in Diegueño. The body-part terms written with it all contain the possessive element indicative of the third person.

Mohave h is represented by Diegueño x, already discussed. The difference between the sounds is not as great as the orthography might imply.

Glottal stops occur in Diegueño (16, 73), but were not noted as very vigorously formed.<sup>18</sup>

#### LENGTHENED CONSONANTS

Prolongation of consonants is a feature shared by Mohave and Diegueño. In addition to numbers 1, 2, 39, 46, 50, 60, 66, prolongation was observed in *esann*, younger sister, *ekurr*, far, *expannk*, whale, *amokwinn*, pipe, *axoll*, string. It will be observed that *nn* of *ex·inn* and *exann* (1, 2) corresponds to Mohave *t*, while on the other hand Mohave *hammulye* is represented by Diegueño *empil*.

<sup>17</sup> With the change in the last syllable of Mohave *numeta*, Diegueño *nyimatai*, cf. that in Mohave *kwaʃiðə*, medicineman (51), Diegueño *kwisiyai*.—J. P. H.

<sup>18</sup> A glottal stop after a final vowel and followed by a very short but fully voiced vowel of the same quality was heard in *kimaʔ*, sleep thou!, *maipeʔ*, where?, and probably also in *piyaʔ*, this.—J. P. H.

## TABLE OF CONSONANTS

The articulation is not always identical for all the sounds represented by letters on one line.

	Stops, half sonant or aspirated surd	Affricative, half sonant or aspirated surd	Fricatives, surd	Nasal continuants, sonant	Lateral continuants, sonant	Lateral continuants, surd	Trilled continuant, sonant	Half-trilled continuant	Semi-vowels	Breath
Labial	p			m					w	
Dental	t									
Alveolar		t	s	n	l	ʎ				
Prepalatal	tʃ	x		ny	ly	(Ly)	r	r	y	
Postpalatal	k	x								
Postpalatal, labialized	kʷ	xʷ								
Velar	q	(Xʃ)								
Velar, labialized	qʷ	(Xʷʃ)								
Glottal	ʔ									

## VOWELS

A characteristic trait of Mohave is the slurring of unaccented vowels, especially initially and finally. The same tendency seems even stronger in Diegueño, as numbers 9, 28, 29, 30, 31, 34, 36, 37, 47, 49, 61, 62, 68, 71 show. It is true that many of these words were at first heard without the final vowel in Mohave also; but, on the other hand, the slighted vowels were expected and listened for in Diegueño, so that their absence can hardly be explained by unfamiliarity alone.<sup>10</sup> It is quite likely that these and other similar stems really begin or end in consonants, and that the additional neutral a which Mohave shows is merely a euphonic increment.

This colorless and unaccented a was at first frequently heard as e in Mohave. The same was true of Diegueño. In fact, the sound generally continued to be so heard, and if recent impression were the only available guide, the author would have little hesitation in saying that Diegueño e (written E) corresponded to Mohave a as the neutral vowel, as in 2, 5, 7, 10, 11, 15, 17, 23, 26, 28, 29, 33, 34, 35, 38, 42, 44, 45, 46, of the list. But in the

<sup>10</sup> I did not note any final vowel corresponding to the Mohave -a.—J. P. H.



records from the former informants a was often written instead of *ɛ* in these same words. Dr. Waterman also writes *xatca* for *xetca*, *awī* for *ɛwī* (though he agrees in *expa*, Mohave *aspā*). It must therefore be left open whether *ɛ*, as this colorless sound might be written, or *ɛ*, is the more proper designation for the unaccented neutral vowel of Diegueño; but the writer inclines to the belief that there is the suggested difference between Mohave and Diegueño on this point.<sup>20</sup>

The Diegueño vowel system seems also to differ from the Mohave in the occurrence of sounds of close quality, at any rate *i* and *u*,<sup>21</sup> in addition to the open values; and perhaps of a third, still different *i*. This may be the sound that Dr. Waterman has indicated by *ü*.

More certain are several definite correspondences with Mohave. Accented *a* generally recurs with distinct quality in both languages (3, 6, 9, 14, 15, 17, 18, 24, 25, etc.).<sup>22</sup>

Unaccented Mohave *a* is sometimes *i* in Diegueño: numbers 12, 14, 15, 21, 43, 51. On the other hand *i* becomes *a* in 28, 39.

<sup>20</sup> The determination of the quality of the vowel in these unaccented syllables proved so baffling that I determined to operate with a large number of characters. I soon found myself using nearly all the symbols for mixed vowels provided for by the alphabet of the International Phonetic Association. Before non-palatal sounds I heard the sound of *ɛ* or *ɛ*, usually as the former when I listened carefully, but I was impressed, as was Dr. Kroeber, that the sound is often more *ɛ*-like than in Mohave. Before palatal sounds I heard the sound even as *i*. Thus *inya*, sun, *xitca*, Pleiades, *miyulyk*, sweet. But I heard the word for eagle only as *expa* or *ɛpa*, and find that I did not mark or note the *x* of the word as being different from the ordinary *x*. The *p* cuts off the offglide of the *x* and thus partly obscures the *x*. On the other hand, the Mohave *i* is certainly represented by a more open vowel than *i* in many Diegueño words. Thus Diegueño *ɛkwi*, cloud(53), *ʔtu*, belly(54), *ʔxu*, nose(55). Cf. Yuma and Cocopa *akwi*. But in Mohave the first vowel of these words is *i*. Tinyam, night(48), retains, however, its *i* as in Mohave, perhaps due to the following palatalized nasal. Can it be that *r* also exercises this palatalizing influence in such a word as *kwirak*, old man(61), Yuma *kwɛraʔakʔ*? In Walapai *r* sometimes takes the place of Mohave *ly* and Mohave *ly* is a palatalized sound. The first vowel of this word in Mohave is sometimes *ɛ*, sometimes *o* (due to preceding *kwʔ*). Also Diegueño *atimm*, bow(66) has its first vowel rounded in Mohave. In Diegueño *au*, fire(64) (Mohave *aʔauva*) the first vowel of the Mohave word seemed to be entirely lacking in the Diegueño word. Certainly the number of more or less distinct vowel qualities is very large and it remains to be determined how the variations should be grouped and to what extent they are the result of contiguous sounds.—J. P. H.

<sup>21</sup> Close *i* was heard in tinyam, night(48), *piyaʔ*, this(73) and *ɛmily*, leg(52), perhaps due to the following *ny*, *y* or *ly*. In several words a moderately close *u* was heard.—J. P. H.

<sup>22</sup> This *a*, as in Mohave, often has considerable *ɛ*-quality.—J. P. H.

Mohave *e* and *i* become respectively *i* and *e* in Diegueño about as often as they retain their quality. Thus, *e* equals *i* in numbers 5, 26, 32, 40, 45, 52, 53, 56; *i* becomes *e* or *ɛ* in 8, 11, 18, 19, 42, 52, 53, 54, 55; while *i* recurs as *i*, or *e* as *e*, in 1, 7, 8, 9, 16, 20, 23, 31, 48, 51, 65, 66, and 73.

Of the back vowels, *o* is uncommon in Diegueño. Mohave *o* is represented most frequently by *u* in Diegueño (4, 20, 34, 35, 41, 46, 54, 57), or sometimes, at least when final, by *au* (3, 19, 56).<sup>23</sup>

Mohave *u* is less often altered in Diegueño. It is preserved in numbers 21, 42, 55 of the list. When Diegueño alters Mohave *u*, it is usually to a front vowel (13, 30).

#### ACCENT

So far as aural impression may be relied upon, the stress and pitch accents of Diegueño seem to be identical with those of Mohave.

#### COMPARATIVE LIST

	<i>English</i>	<i>Mohave</i>	<i>Diegueño</i>
1	one	sito	ɛx-inn <sup>24</sup>
2	good	ahòt	ɛxann
3	fox	marho	parxau
4	fly	ðilyahmo	mesaxapu-ly
5	woman	ðenya'äka	sinyɛ
6	five	ðarap-k	sarap <sup>25</sup>
7	salt	aðl	ɛsi-ly
8	drink	iði	ɛsi
9	ocean	(a)ha-ðo'ilya	xa-sil
10	raccoon	namaða	nɛmas
11	hand	isalya	ɛsɛl
12	liver	'ipasa	te-ipɛsi
13	star	ha-muse	kwily-mesap <sup>26</sup>
14	mockingbird	sakwa-ða'älyä	sakwi-lau
15	white	nyamasäm	kwe-nimsap
16	buzzard	asei	sa'i
17	eagle	aspä	ɛx-pa <sup>27</sup>

<sup>23</sup> With the equivalence Mohave *-o* = Diegueño *-au*, cf. Mohave *-e* = Diegueño *-ai* in no. 51.—J. P. H.

<sup>24</sup> Also given as *ɛx-innk*, it is one.—J. P. H.

<sup>25</sup> It is stated that the proper Diegueño term for five is 'ɛsalɛakai.—J. P. H.

<sup>26</sup> The informant gave *kwan'mesap*, evidently a variant form.—J. P. H.

<sup>27</sup> *ɛxpaʔ*—J. P. H.

	<i>English</i>	<i>Mohave</i>	<i>Diegueño</i>
18	sleep	i-smā	z-x-mā
19	tooth	'lō	ɛyau
20	eye	'lō	iyū
21	sweet	maḍuly-k	miyul-k
22	where	maki	maive <sup>28</sup>
23	stone	avl	ɛwi <sup>29</sup>
24	house	ava	awa
25	south	kaveik	kawak
26	rattlesnake	āve	ɛwi
27	you (pl.)	māteva	minyawaptc <sup>30</sup>
28	tongue	'ipalya	'anapɛL
29	ear	'amalya	'ɛmaL
30	ash	hammulye	empil
31	hot, day	'ipily-k	'upil
32	skunk	ilyhue	kwilyexwiru <sup>31</sup>
33	rabbit	halya'auva	xɛliau
34	spider	halytota	xɛltut
35	roadrunner	talypo	tɛlpu
36	gourd, turtle	ahnalya	axnaL
37	rat	amalyka	maik
38	moon	haly'a	xɛlya
39	arrow	ipa	apall
40	beard	'iavume	'alemi
41	mortar	ah-mo	kaly-mu
42	see	iyu	ɛwu
43	sun	anyā	inya
44	Pleiades	hatca	xɛtca
45	metate	ahpe	ɛxpi
46	mountain-sheep	ammo	ɛmmu
47	dog	ahaṣa	axaṣ
48	night	tinyam	tinyam
49	earth	amaṣa	amat
50	sky	ammaya	ammai
51	medicineman	kwaθiḷḷ	kwisiyai <sup>32</sup>
52	leg, foot	'ime	'emi-ly
53	cloud, rain	ikwe	ɛkwi
54	belly	'ito	'etu
55	nose	'ihū	'exu
56	nail	kelyuho <sup>33</sup>	silyexwau
57	white man	haiqo, hiiqo	xaiqu
58	two	havik	xawok <sup>34</sup>

<sup>28</sup> Given as maipe\*.—J. P. H.

<sup>29</sup> Given also as ɛwily.—J. P. H.

<sup>30</sup> Given as minyawap.—J. P. H.

<sup>31</sup> Given as kalyixwi'u.—J. P. H.

<sup>32</sup> Recorded as kwasiyai.—J. P. H.

<sup>33</sup> Mohave ho < hwo?—J. P. H.

<sup>34</sup> The pronunciation is practically identical with the Cocopa.—J. P. H.

	<i>English</i>	<i>Mohave</i>	<i>Diegueño</i>
59	mouth	'iya	'ä
60	knee	memepùka	mexetunn
61	old man	kwora'äka	kwirak
62	blood	ahoata	axwat
63	snow	'upaka	aläp
64	fire	a'sauva	äü
65	dance	ima	ima
66	bow	otisa	atimm
67	tobacco	auva	up
68	deer	aqwäqa	aqwaq
69	badger	mahoa	maxwa
70	bird	teiyère	asa
71	raven	aqäqa	axäq
72	no	vära	umau <sup>25</sup>
73	this	viäa-nya	piya' <sup>26</sup>
74	bad	alai-k	wilite
75	cane	ahtä	artä

## CORRESPONDING SOUNDS

<i>Mohave</i>	<i>Diegueño</i>
p	p
t	t
ʈ	n (occasionally)
ʈ	ʈ
k	k
kw	kw
q	q
qw	qw
tc	tc
m	m
m	p (sometimes)
n	n (usually)
ny	ny (usually)
ʅ	s
s	s (usually)
s	x. (occasionally)
ʃ	y
v	w (always when medial)
v	p (sometimes)
h (x tinge)	x
ho (= xw)	xw
	X (ʔ)
	Xw (ʔ)
ly	L
(ʔ)	l

<sup>25</sup> Recorded as 'uman.—J. P. H.<sup>26</sup> Recorded as piya'ä.—J. P. H.

<i>Mohave</i>	<i>Diegueño</i>
(ʔ)	ly
l	(ʔ)
r (trilled)	r (untrilled)
(ʔ)	r (trilled)
rr	(ʔ)
y	y (ʔ)
w	(ʔ)
ʻ	ʻ
,	,
a	a (normally)
a	i (occasionally)
a (unaccented = ʌ)	ɛ
e	e (frequently)
e	i (frequently)
i	i (frequently)
i	e (frequently)
i	a (rarely)
o	u (usually)
o (final)	au (sometimes)
u	u
u	i, e (occasionally)
(ʔ)	o (rare)

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SARSI TEXTS

BY  
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CONTENTS

	PAGE
Introduction .....	190
Key to Sounds .....	191
Descriptions and Information .....	192
The Sun Dance .....	192
Prayers .....	196
The Hair Parters .....	196
List of Dance Properties .....	206
The Dog Feast .....	208
Societies .....	214
Qualifications and Duties of Chiefs .....	214
Shamans .....	216
Sports .....	218
Painting of Tipis .....	218
Buffalo Pounds .....	220
Trapping Beaver .....	220
Primitive Dishes .....	220
Stone Arrowheads .....	222
What Eagle-ribs Saw at Edmonton .....	222
Medicine Bundle Rituals .....	224
Origin of the Beaver Bundle .....	224
Planting Tobacco .....	226
Jackrabbit Gives Medicine for Swift Horses .....	226
White Goose Gives Medicine for Horses .....	228
Buffalo Bull Gives a Shield .....	230
Owl Skin War Medicine .....	230
Squirrel, a War Medicine .....	232
Sky Person Gives a Medicine .....	234
Pat Grasshopper Receives Medicine from Hawks .....	236
A Knife, a War Medicine .....	238
Weasel Gives a War Medicine .....	240
Rock Gives a War Medicine .....	242
A Painted Tipi .....	242
Finding a Buffalo Stone .....	242
Wild Parsnip Gives a Medicine .....	244

	PAGE
Narratives .....	246
Tc'agūcāgga, the Wise Sarsi .....	246
Famine Relieved by Magic .....	250
Broken-Knife Relieves Famine .....	252
A Captive Sarsi Boy Escapes from the Sioux .....	258
A Lame Man Captures Horses .....	260
A Bear Brings Home a Crippled Sarsi .....	262
Two Hawks Test Their Speed .....	262
A Bird Has its Mate Doctored .....	264
A Fight with a Bear .....	264
Curing Madness Resulting from a Wolf Bite .....	266
Minor Narratives .....	266
The War Deeds of Eagle-ribs .....	268
The Personal Experiences of Grasshopper .....	272

## INTRODUCTION

The Sarsi are an Athapascan-speaking group of Indians who have been closely associated with the Northern Blackfoot of Alberta since the earliest historical reference to either tribe in 1754. There are no traditions of a trustworthy nature which connect the Sarsi definitely with any other Athapascan tribe. Linguistically all the northern Athapascan east of the Rocky Mountains except the Sarsi and the Beaver on Peace River have certain sound shifts not shared by the latter two languages. The Sarsi and Beaver, however, are hardly mutually intelligible, although both show relationships with the languages of British Columbia.

The texts here presented were collected during the summer of 1905. The expenses of this visit were provided by the American Museum of Natural History under an agreement that that institution should have the collections and the ethnological information and the University of California should be entitled to the linguistic results. The larger number of these texts were revised in 1911 with the aid of Charlie Crowchief, who was the interpreter used in obtaining them originally. Many of the texts were also traced with the Rousselot apparatus from his dictation. It was discovered that in originally recording the texts certain intermediate sounds were written as surds and thereby fell in with a series of surds from which they should be differentiated. The glottally affected sounds in Sarsi are

unusually hard to distinguish. Charlie Crowchief at the time the texts were recorded confused *L* and *s* in speaking. That all these errors were corrected when the texts were revised with his aid is not probable.

The main informant was Eagle-ribs, a man then about 65 years old. As he says in one of his narratives, he ranked as a chief according to the old order. He led the chiefs in relating coups during several sun dances.

The publication of the texts is for the purpose of furnishing material for phonetic and grammatical study. It is intended that this paper shall soon be followed by a grammatical analysis of the material here contained. Free translations of most of the texts have been or will be published.

#### KEY TO SOUNDS

- a, e, i, o (unmarked) open as in father, met, pin, not.
- ē, ī, ō, ū close as in they, pique, note, and rule.
- ā, ē, ī, ō, ū nasalized.
- ɤ narrow, as u in but.
- y as in yes; sometimes written for a sonant spirant when coming before a front vowel.
- w as in will, seldom occurs.
- m as in met.
- n as in net.
- ŋ as ng in sing.
- l as in let.
- L a surd lateral spirant; the breath escapes between the back teeth and the sides of the tongue.
- L' the last sound with glottal affection; an affricative.
- z a sonant spirant; as in lizard.
- s as in sit; a surd spirant.
- j as z in azure; a sonant spirant.
- c as sh in shall; a surd spirant.
- ç a palatal sonant spirant similar to the sound of *g* in *Tage* as spoken in Northern Germany.
- x a palatal surd spirant; as ch in German.
- h written in many places apparently for the preceding sound lightly articulated.
- d a dental stop, intermediate as to sonancy.
- t a strongly aspirated surd dental stop.
- t' a glottally affected surd dental stop.
- g a fully sonant palatal stop; probably often written for the following sound.
- ḡ a palatal stop, intermediate as to sonancy; sometimes written *k* through oversight.
- k a strongly aspirated surd palatal stop.
- k' a glottally affected surd palatal stop.
- dj and dz sonant affricatives.
- ts' and te' glottally affected surd affricatives.
- ' denotes unusual aspiration.
- glottal stop.



## DESCRIPTIONS AND INFORMATION

## THE SUN DANCE

dū      xa t'a      'a ts'is 'in na t'a      tī ga      ma gū dil la na  
 ka ts'i      ts'i kū wa      gī na 'i'      gū dī nūc cī      'i ta'  
 tsis da L'ū wū      'as La      dī ne      mək gū dī la      dī na gil la  
 dī na      ts'i kū wa 'i      gī gī ka ts'i      tsis da L'ū wū'      'as sa dla  
 5 gī gī is nī i      ta tsa      t'i gī      dō gī gil la      dī na la      t'i gī  
 tsis da L'ū wī'      'a gīs 'ic      xa nī      nī lən nī      ka ts'i  
 dī dī gəc      ts'i ga nī      t'i gī      mī tsū'      La t'a      xa t'e'is t'əc  
 'a Li ka ts'i nəc      'i wa t'i gī      Lik ka kū dīs ga      dī na  
 na tsa na 'i      ta zī k'a      gūs t'i ga      gim ma ga      ts'i kū wa  
 10 na tsən na      'a gū cən na 'i      'as gī nīc      t'i gī      'i tsū' 'i  
 k'a gī nīs t'əc  
     tsis da L'ū wū'      ts'az zil lī      na ts'it tsa      zīt da  
     'a t'e'iz 'ic      'is ga kū wa      k'a La dī t'e'ic      ts'az zil lī  
     tein na 'i      na gal ləl Lī      t'i gī      'a gū ka gū na ga djiL  
 15 'a t'i gī      təc az zil lī      'a ts'il la hī      na gī gī ləc      dī tēi 'i  
     nī da ts'i dī teic      gū nīs na dī      zā'      'a t'e'ic 'ic      təc az zil lī  
     tsa ha      dī tī gī      djū'      gū nīs na dī      zā'      k'a nī t'a  
     tsī nī gī L'ū nī      tī gī      dī tēi 'i      tsī'      Lil la      təc tēiz  
     gwa t'e'ic 'ic      ha li kū wa      'is t'i ga      kū dīLtc      ta dī dī na  
 20 xa na gī daL Lī      t'i gī      dīn na'      'is ga kū wa 'i      təc az zil lī  
     'a la gī na 'i      'i tsū'      ga      t'e'is tēūj  
     tēis da L'ū wū      'a ts'il la      ts'i      tī t'e'in nəc      tsis da L'ū wū'  
     'a ts'i la dī      Lik ka kū dīc ga      na t'e'in nəc      na tsən na 'i  
     ta zī k'a      nī na gī nəc      gim mī nas ka      'a t'i gī      na t'e'it teic  
 25 gim mī t'e'il līc      'as tsa'      tsis na L'ū wū'      gī na'      gim ma ga  
     t'e'il lac      dī na      zil las na 'i      dī dji      dji nīs i      dū gī teij  
     tū      nī za k'a ga      zā'      gī dā'      tis      tas t'e'ite dji      zā'  
     gim mī zīt da      da ga dī t'a dī ta'      gim mī tsin na t'i ga      t'a' tēū  
     mī ka la      zā'      t'e'a sī tca      mī tsī' k'i za      da gī L'ū  
 30 Lək ka zā      ts'i ka      gū yən na      Lək ka zā      ga      sit dan na  
     'i tsū'      ma ga      t'e'i 'əc      'i wa t'i gī      nī teit t'e'əc ga  
     k'a gīs t'e'ūL      nīs t'as sī      ta gī ga 'aL Lī      Lil la      'i ta      sa ga  
     nī t'a      sī ka la      i Lil la      gū dja      dī na 'is la      gū la  
     t'e'in nīs k'a      na gī gī 'əc      'i wa t'i gī      'i tsū' 'i      dī ka la ts'i'  
 35 na gī gī dī 'əc      gī gī tēiz gū

## DESCRIPTIONS AND INFORMATION

## THE SUN DANCE

Not without cause they do it. Very who is sick for him women it is who say, "Father, sun lodge I will make, this sick person he may get well." These women for him sun lodge we will make those who say it, he dies then they do not make it. He gets well then sun lodge they make. Buffalo many for they hunt. Those they kill then their tongues all they cut out. They come together. Then they camp in a circle. Those who make the lodge middle just their tipi. Women sun dance who know they ask then the tongues they-cut up.

Sun dance sweat-lodge they build before they make. Young men all mount their horses. Sweat-lodge poles they are bringing back then they sing. There sweat-lodge they are going to make they put them. The poles they put-in the ground. One hundred only they make. Sweat-lodge stones these too one hundred only there are. They-twine together then the poles red paint with they-paint. They make it. Old men all go in. They pray. As they come out then these young men sweat-lodge the makers tongues to them they give.

Sun lodge they make toward they move camp. Sun-lodge where they make camp circle they came. Sundance maker middle they camp around beside her. There they make it. They give them first sun lodge their clothes to them they give. These make the dance four days they do not eat. Water a little only they drink. Cane painted only behind them it hangs. Their hats large feathers, her husband only crow's tail side of his-head is tied on. One women sensible one to her husband tongue to her he gives. Then small pieces she breaks off. Toward sky holding it with, "Father, me pity. My husband with well I have lived it is." On ground she puts it. And the tongue to her husband she takes it back, they may eat it.

- 'a ga na di gi 'a    'i t'ū    mi k'a    te'ie 'ie    'i wa t'i gi  
 na gi ni dji    mi ki da te'i ləc    'i wūs k'a    di tei    'i t'as si  
 i Lil la    ka ni ga    'i wūs    'i k'a    'i tei    ni tsis di    yū wū'  
 'a ga na di gi 'a    'i ts'i    'a ka ni ga    la t'a    'a te'it la  
 5 'i tei    nas 'a ga    'a te'is 'ie    di na    tsin na ga    di dji  
 dzin nis si    kwī yī ga    zā'    na gi təc    dū ha gi ya kō  
 te'it dji ni'    t'i gi    na yəc    'it di si ni'    i Lil la    ta L'əc  
 k'a ts'i dji hi    t'i gi    na ni dac    ha gi na    t'i gi  
 ha kū dji ga    zā'    kū di lte    gū te'i ni j    'a li ts'i da l li  
 10 gū ka    da gū gi ni j    ha kū dji ga na 'i    gim mi ts'ai yi ka  
 da ni    ma gū ni lin ni    kū gi ləc    di na    gū nas 'in na  
 yil na' i gū  
 'is ga kū wa    mi ts'ū wa    k'a ts'i nis t'as sin na    kū yəc  
 'i wa t'i gi    xa gi nie    'i ta    'is lək ka    'i gis teūt  
 15 'i wa t'i gi    da    teis da L'ū wa ga    kū wī ca di    si ts'ū wa  
 xa ts'i t'as si    ha ta gi di dli hi    t'i gi    gim mi ts'ū wa  
 xa te'i t'as    L'ū tei di gai ye    tsin na gi təc    gim mi la tein na  
 das L'ū'    gim mi ka tein na    djū    laz    'i Lil la    ta gis gəs sa  
 'is gəs siL    ga gi di si L'ū'    'i wa    gim mi təc na    zā'  
 20 has t'i    gim mi ga    na te'in nis t'ie    xa gi ya    t'i gi  
 gim ma ga    ts'it di    na ts'i di nis teūs    di k'a    'al la  
 gin ni təc    te'it di ni dji'    zā    gi ma zat di ta    xa gis tin na  
 gim mi ts'ū wa    xa te'i t'ac    di tei    miz za na    xa te'i teie  
 'i t'ū 'i ts'i    L'ūL    'a ki yi    na ka ni t'i    L'ūL 'i    'i tei  
 25 gim mi ts'ū wa    ga ni 'a 'i    ga di gi    'i wa t'i gi    'a ga na ti gi 'a  
 gi gis teūte    i Lil la    ta gi di dli xa t'a    k'a ta gi di dli di ga wa  
 gim ma ga    te'i di djie    'i ki di da    zit da    L'ōL 'i    gis teūte  
 'i wa t'i gi    gim ma    sit di djie 'a ha    gū gin ne dac  
 gi teit tei    i Lil la    'i ki di si ni    Lil la    tei tei    mi ka tōL li  
 30 t'i gi    'is dū na    ha li kū wa    gim mi zəm miL    gis teūte  
 'i wa t'i gi    k'a da    gū gi di si xalte    'i da la    mi ka teūL  
 gi ma lin na    ka teōL li    na te'i gis nite    'a ga na di gi 'a  
 ka tei na    na ts'i 'ac    'a t'i gi ka wa    xa ni gi yəc  
 'i gi    ts'ū kū wa    na tsən na 'i    'is dū na    'is ga kū wa  
 35 gi ni i la    t'i gi    dū dzən na    di na gi li'  
 'a t'i gi ka wa    na ni    teū t'in na    tsin na L'ū wa    gi ni dja

The center tree nest on it they place. Then what they offer they place in it. On forked sticks poles leaves with they lean against it. Forked sticks on poles very long there middle tree against they lean. All opposite the door poles house they make. These fast four days inside only they sleep. He does not go out. They sing then he gets up. He whistles with he dances. They stop singing then he sits down. Noon then chiefs only they come in. They tell stories. Battles about them they tell. The chiefs their wives food good they bring in people watching them they may eat.

Young men their breasts who are cut go in. Then they say, "Father, horses may I capture then when sun dance lodge when I go in my breasts they will cut." This way they pray then their breasts they cut. (A weed) they tie around their heads. Their wrists they tie, their ankles too. White clay with they rub themselves. Belt they tie around. And breech-cloth only they wear. For them they put a lodge. He comes out. Then for them blanket they spread. On this back down he lies. Whistle only is around his neck. While he lies his breasts they cut. Sticks through they stick. From the nest ropes two hang down. The ropes sticks his breasts are stuck through they loop over. Then center post he embraces with he prays. When he finishes praying for him they sing. He dances before ropes they pull. Then for him they sing. He dances. Hanging with he whistles with, in vain he tries to break it then other persons old men his shoulders they take hold. Then backwards they pull him. There it tears out. His flesh which tears out he offers. The center tree its base they place it. After that he goes out.

The women makes sun dance other young men they go with then not long they live.

This much our Sarsi sun dance its story.

*Prayers*

hai yū hū'    ha li tsa    siL tit di nin na    na ga    tcaz zi li  
 'a ts'i la'    hai yū hū'    ha li tsa    da    na ga    tcaz zi li  
 'a ts'i la'    siL tit di nac na gū la    di na    tcaz zi le    sa ga la na  
 siL tit di nac na gū la    di na    tcaz zi le    sa ga la na  
 5 gim miL ti di nas na gū la    ha li ka    'a gi na hi    hai yū hū'  
 'i ta    siL tit di nin na    te'a    na di gi ts'an    hai yū hū'  
 'i ta    'i ts'ag ga k'a sa    na di gi ts'an    da nis t'ag ga  
 kwi yi ga    gwa gū ni li    di na    'is li gū la    hai yū hū'  
 'i ta    sa ga    ni t'a    di    tū    gū ma si ti gi    'an ni lai gi  
 10 di    nū k'a    'an ni la gi    gū k'a    djon na    di na  
 'i li gū la    hai yū hū'    'i ta    si gi la    ka ni gi t'a hi    sa ga  
 yi ni ni    hai yū hū'    'i ta    'is tei tei    sa ga    yi ni ni  
 sa ga    ni t'a    'i ta    hai yū hū'    'i ta    ta ni sin na    sa ga  
 ni t'a    sa gū yi la  
 15    na ni'    di na ti    ha mi ts'i ta di si di

ha li tsa    'i ta    gwa gū ni li    dzan na    di na    ts'i li ni  
 'i ta    sa ga    ni t'a    yis djon    dza na    ts'in nis k'a    di na  
 'is li gū la    'i wū'    ta gi s k'is sa    te'a t'ag ga    xa na ts'it di  
 t'i gi    ni ts'i    gwa gū ni li ni    di na    'is li gū la    'i ta'  
 20 di ni'    ts'i ka    di ka la    lil la    gi djon    'a t'i ga ga  
 t'i gi    ka wa    na ga    gū la'    'i tsū 'i    na ga    nis teūt  
 'i na    sa ga    ni t'a    la t'a    di nan na    i lil la    sa ga  
 ni t'a    da gū ni tin na    ta na ni ts'i di    t'i gi    na nis tcaz gū la  
 ts'ā tca    'i na    'i na'    hai yū hū'    ts'ā tca    si gi la  
 25 ka ni gi t'ā    gwa gū ni lin ni    sa ga    gin nin ne    'i na'  
 sa ga    ni t'a    sa ga    gū yi l'a    hai yū hū'    ts'ā tca  
 sin na djon na    i lil la    dza na    di na    'is li gū la

THE HAIR PARTERS<sup>1</sup>

ma si LəL Lİ    Lİ ka dji di ni Ləc    da mil le    ta za teic tcaz si  
 Lİ gi sa k'a    ts'i kū wa    dis tsī    ma gū Lİ ni k'as si    'i ga kū wa  
 30 dis tsī'    ta tin na    di z na    'is ga kū wa    dis tsī    'a ki na

<sup>1</sup> Obtained from Pat Grasshopper, who sold the hat the possession of which confers the position of leader in organization. For a free translation see *Anthropological Papers*, American Museum of Natural History, XI, 470-474.

*Prayers*

Oh, Old man, help me. For you sweat-lodge they-make. Oh, Old man, here for you sweat-lodge they-make that you may help me. These persons sweat-lodge who have made help them. Old men may they become. Oh, father, help me. Thunder may I hear again. Oh, father, birds' voices may I hear again. Sky in happily person may I be. Oh, father, me pity. This water is surrounded by which you made this island which-you made on it long person may I be. Oh, father, my days let them be to the end. Me give something. Oh, father, what I eat me give. Me pity. Father, Oh, father, I am poor. Me pity give me something.

We Indians thus to him we pray.

Old man, father, happily long time person having-been, father, me pity. I may be old. Long time on-earth person may I live. Then hot sun when it-comes up then from you happily person may I be. Father this woman her husband with may she be old. From this time then lodge for you they made. This-tongue to you I give.

Mother me pity. All people with me pity. Every time when you rise then may I see you, Old-woman mother. Mother, oh, Old woman, my days to the end happiness me give. Mother me pity. Me give property. Oh, old woman, my relatives with long-time person may I be.

**THE HAIR PARTERS**

Wagons they place in a circle. The opening is toward-the overhead sun. On the left side women sit. On-the right side young men sit. Doorway four persons young men sit. Two persons sword in front of them

- mās    gī mī tsī ta    na dī gī 'a    'a kī na    na Lī na    gī mī ga  
 'is Lī haL 'a    sī ta  
       ma gū Lī nī k'as sī    'as sa teū    'ī teī    ma ga    na dī gī 'a  
       'a t'ī gī    'ī teī    ma ga    na dī gī 'a    k'a    da ga dī 'a  
 5 dīj na    'is ga kū wa    'ī dji na    mī ga    dīL tsī    as sa  
       nī teī teag ga    dī teī    ta zī ka    sī la    'is ga kū wa    ts'ī kū wa  
       dīL tsī na    gī mī kī za    'a teit L'a    dī teī    'ī teī    na dī gī 'a  
       dī teī    sin na t'ī gī    na dī gī dūL 'ī    ma ga dī ga    'is ga kū wa  
       tān na k'a    'a kī    'ī teī    nī na dī gī 'a    k'a    'a kī  
 10 gū tea    da ga dī ga    'a kī na    'is ga kū wa    'is ka sī  
       'as 'in na    gī gī zit da    gīs da    da ga dī ga    dī na  
       mī dān na ta sī    gū nān    'is gī ya    ts'ī kū wa    nas 'a    sī da  
       tsīL    'aL 'in nī    dī na    nān nī dāc na    'a ga    'ī da na dī teic cī gū  
       has dū gū na k'a    sī da    'is ga ka    nī tsa    teī dī nī teī  
 15 'aL 'ī nī    sit da    ma ga    teī dī dji nī    t'ī gī    ta dīL lātē  
       lām mān na nī dāc    dīc gū    lām ma nī da    t'ī gī    'ī dīc nīc  
       mī ga    nīs ka ne    'as 'in na    sī da    ts'ī kū wa    nī la ga  
       'is Lī ha La    'as 'in ne    ts'ī ka    sī da    'is ga ka    nī tsa  
       da nī    'as 'ī na    sī da    'a sa    'as 'in na    'a teit L'a  
 20 sit da    'is t'ān nī    'as 'in na    Lī tī gī    'as sa    'aL 'in na  
       ga    sī da    'is gī ya    ts'ū kū wa    gō 'a 'a    'ī lin na  
       Lī tī gī    ts'ū kū wa ga    sit da    La ka za    'is gī ya    gō wa  
       tū    'ī na kac na    'as sa ga    sit da    'as sa    nī teī teā ga  
       'is La    'ī Lī la    mī ga    sa 'a    mī ga    'is gī ya    sit da  
 25 nī da na    'a teit teūt da kū la    Lī kī    na Lī nī    'is tān nī  
       'as 'ī nī    'a teit 'L'a    gū t'a    sit da    'ī teī    nī tsis dī  
       ta gī tīL  
       'a kin na    'is ga kū wa    ma sī LāL ī    'a Līk ka lān na  
       mas gū    Lī ka kī yī dī gī lāc    gū t'a    gīs da    Lī tī gī na  
 30 'is ga ka    ka wa    tsin nī da    t'ī gī    na gī nīL tite    'as kī za  
       gī nīL tic    Lī tī gī    'is ga ka    nas 'a ga    kwī yī ga    sin nī da  
       t'ī gī    kwī yī ga 'ī    gū dja    na gū gī la    lāc gū gī dī gīc  
       'ī tin na 'ī    xa gī la    tal    kwī yī ga    La nī tī'    gwa gū gīL 'īc  
       'ī L'ī gī    sin nī da    t'ī gī    'ī k'a tū    kī da    da gīL gū 'ī  
 35 dī na    'is ga kū wa    'ī dji na 'ī    ta za ka    na gī mī teī lāc  
       'ī wa t'ī gī    'as sa    sit L'a    dī gī 'ī    L'ū tsin    mī ga  
       teit dīs k'āc    'ī wa t'ī gī    ma ga    gī teī lātē

stands in the ground. Two persons others beside horse-whip lies.

Right side big drum sticks for it are stuck in the ground. Then sticks for it stuck up on it hangs. Four young men who sing beside it they sit. Drums small four in the middle lie. Young men women who sit between them opposite the doorway four sticks stand up. Four hats tall hang. Young men behind two sticks stand up on two tails hang. Two young men belts who own in front of them they sit. Where it hangs those among who dance give order young man women in front he sits.

Axe who owns those who dance for them he fills-their pipes beside the speaker he sits. Young men among whistle who owns sits. For him they sing then he dances. He dances around a circle. Four times he has-danced around then he whistles. By him shield who-owns sits. Women at the end horse whip who owns woman sits. Men among gun who owns sits. Drum who owns opposite the door he sits. Arrow who owns same place drum who owns by he sits. Young man women work who are same place beside women he-sits. One young man to them water who takes around beside drum he sits. Pail small cup with beside-him stands. Beside him young man sits. Those who-dance he brings in food. One another arrow who owns opposite the door among them he sits. Sticks long he holds.

Two young men wagons who gather like a ring they put in a circle, among them they sit. The same young men tipi they dance then they put up. Side-by side they put them up. The same young men house inside they dance then inside good they make it. They sweep. Rubbish they take out. Bed blankets inside they put around. They make it. At night they dance then lamps in they put (oil). These young men who-sing in the middle they put them. Then drum small this sweet grass under they burn. Then to them they give them.



- na gī dīc ga    līl la    dī dji    xin    ʔī gī dī yite    mīl  
 gū t'a    xin ʔī    gīt dī gī    t'i gī    ts'ū kū wa    dīj na  
 sin na tī gī    ʔas ʔī na    na dīl te    ʔī wa    ts'ū kū wa    la t'a  
 ʔas nī tsa    na gī dīl te    ts'ū kū wa    na ʔī dal dī kō wa  
 5 la t'a    ʔis ga kū wa    na dīl te    na gī dal dī ga wa    la t'a  
 ts'ū kū wa    gī dji    ts'ū kū wa ʔī    dī da hī tī    ʔis lī ha la  
 ʔas ʔin nī    ʔis ga kū wa    ts'ū kū wa    kī za    gū dī la    ʔī wa  
 dīc gū    mas gū    dī ma tēi nī dac    dī nī    ts'i ka    ʔis lī ha la  
 ʔas ʔī nī    gū na sī    ʔī dī dac    ts'ū kū wa    ʔis ga kū wa  
 10 ʔa k'a    sī dan na    dī nī    ts'i ka    ʔis lī ha la    ʔas ʔin nī  
 gūl ha la    tī gī    ts'ū kū wa    ʔis ga ka    yīs ha la na ʔī    ʔis lī  
 gū wac tate    ʔī wa    ʔī sa ga gī tī zī dī    t'i gī    dū gū wa yī nī te  
       has da gū na ʔī    ta za ka    ʔī dī dac    ʔis ga kū wa  
       ʔis lī ha la    ʔal ʔī nī na    yū wū k'as sī    na kī sit    ts'ū kū wa  
 15 ha gī yī na    ts'ū kū wa    dīl tsī    ʔī k'a sī    ʔis ga kū wa  
 mas    ʔal ʔī nī na    na zit    ʔa t'i gī na    djū    ts'ū kū wa  
 ha gī gī na    ʔis ga kū wa    sū kū wa    ʔī la    ʔīl teū na  
 win nī t'ān na k'a    gī mī teis cūz    dū kin nī da kū    k'a tsin nī da hī  
 t'i gī    dī na    ʔis ga kū wa    ts'ū kū wa    ʔī la    tēi na gūl teū dī na  
 20 ta za k'a    na gī mī teis cūz    has da gū na ʔī    nai yate  
 ha nīc    lai yī ka    dī nīc    ta za k'a    sīt da    yū wū  
 ts'i ka    ʔī la tein na    gūl teū tea ga    na dat tsa    la t'a  
 mī za    nal t'a    mīl la    ta dal la    ʔī wa t'i gī    la t'a  
 mīl la    ta tēi dī ʔate    ʔī līl la    mī za    sin nī tate    ʔī wa  
 25 ha na tēi cūj    dī nī    has da gū na hī    ha gūl nī te  
 da ha na gūl na hī gūl    ha na dja na    gū lī la da    las gū la  
 dū na nāl da ha ʔa    ʔī wa    dīs gū    ts'ū kū wa    ta dī dīl te  
 ʔis ga ka    djū    dīj gū    ta dī dīl te    ʔa t'i gī kō wa    ts'ū kū wa  
 ʔī līl la    lū ka    ta na tēit dī dīl te  
 30 dīc na    ka t'ū na ga    gūl ʔa lī gī dal na    sit dī    gī ma ga  
 ta za k'a    na teis teū cī    k'a    gī dī nīl teite    ʔis ga kū wa  
 dīj na    gī ma ga    dī dji na    na dīl te    dī dji    xin  
 gī ma ga    ʔī tēi dīl gite    mīl    gū ta ʔī    t'i gī    ʔī gī dī date  
 yū wū    sin na tī gī    na dī gī dūl ʔī    dī dji    tsī  
 35 ʔī gī dī date    ta za k'a    da nī    ʔī wa    gū teis    gī ma ga  
 na teil late    gī gīl teū te tee gū    na gī gī dīl late    sī dan na  
 sit l'a    nī tea wān na    ta za k'a    gī nī dac    gwa gī mī teie ʔic  
 dī na    ka t'ū na ga ʔī    sit da ʔī    gī mī ga    ta tēi nī date

They stand while four songs they sing. Then among the songs they sing then women four hats who own get up. Then women all afterwards get up. Women after they get up all men get up. After they get up all women sing. The women they dance horse-whip who owns young men women between he-places. Then four times like a ring they dance around. This woman horse whip who owns opposite way she dances. Women young men still who are sitting this woman horse whip who owns strikes them hard. Women men whom she hits horse she gives them. Then they become angry then she does not give them.

The one who speaks in the middle dances. Young men horse whip who own yonder side (outside) they stand. Women who looks after women they sit that side young men sword who own stand. Those too women they look after young men women her hand who holds behind the ring they pull them they may not dance. They finish dancing then these young men women their-hands who held in the middle they put them. The speaker gets up. He says, "My friends, this person in the middle sitting yonder woman her wrist because he held he is foolish. All his mouth kiss, his hand shake." Then all his hands shake with his mouth they kiss. Then they take him out. This one the speaker tells them "Do not do that again. Who does that again if there is one never he will dance again. Then four times women they dance. Young men too four times they dance. After that women with together they dance.

Four men who have fought blanket for them in the middle they spread on it they sit. Young men four for them who sing they get up. Four songs for them they sing then fifth then they begin to dance. Those hats high four toward they dance. In the middle guns and scalps for them they put on the ground. Then one who captured them takes them up. Boy small large middle he sits they make. These men the boy by them he sits. Knife with they cut him up they pretend. His-

- mās    ʻi Lil la    ta ki mi tei t'ac    gwa tei di ʻic    gi mi teis  
 djū    tsit diis teūL    gwa teit di ʻic    diis gū    gi ma ga  
 ni na sin ni da hi    t'i gi    ha na gim mi tei ʻic    sit da ʻi  
 di na    dij na    ka t'ū na ga ʻi    ʻis Lək ka    ma ga    teil ləc  
 5 ha gi na di    tei na ti gi ʻi    tei na gi die    gi giL    la na di dāc  
   gū gi nite tei    t'i gi  
   ʻi wa    ʻis Le    gū tsiis    da ni    ʻi cīc teū    gi ni    t'i gi  
   gi ma ga    ʻas sa    teic halc    di na    zi sis gi    gi nite  
   ni lən ni    tea k'i t'in ne    ka gū ki nite    gū lat di    gwa li gīs dal  
 10 djū    gi nic    ni lən ni    ʻis Lək ka    djū    ʻi cīs teū    djū  
   gi nic    ʻa t'i gi ko wa    sū kū wa    gō ʻa ʻa ʻi    tsī ma ti gi ʻi  
   da ga na di ləc    sū kū wa    mi tsin na' ti ga    na tsī la ʻi na  
   ʻa na gi diL dilc    ʻis Lək ka    gū sil a    ma gū ni lin ni  
   ʻa na tsit diL diL    ʻa na tsil diL diL ʻi    ni la    ʻa t'ic  
 15 has da gū na ʻi    ʻis gā kū wa    haL nite    na ni    ʻis t'a  
   ta das daL    ʻa na dāL dāL    gū sil a ʻi    si ni    yi ni zin na  
   ʻis li    gūL    ʻa na dāL haL    ʻis li gū    ʻi tei    da ʻi    li ti gi  
   na tsil la  
   La ka za gū    ʻis gā ka    ta diL ləc    ʻas ts'a    gūs ti ga  
 20 ʻas sa    ʻas ʻi ni    ta diL ləc    mi tsiis di na    ʻis ka se  
   ʻas ʻin na ʻi    ta gi diL ləc    ʻis ka si    ʻi ts'i    na gi di dāc  
   ʻis dū wa    xin    ʻi Lil la    ka gi diL lūc    ʻi wa    la gi di dāc  
   dij gū    na gi ni dāc    ʻis ga si ʻi    da ga na gi diL ləc    mās  
   ʻas ʻin na ʻi    na gi ni dāc    gū k'a    la ka zā    ʻis gā kū wa  
 25 tei si    li ka    sū kū wa    teis i    ʻi gi di dāc    ʻal t'as si  
   ha na gi ni dāc    dij gū    ha gi t'ic    mās ʻi    zil ləc ci  
   ta gi yi yis ni  
   ʻi wa    dū gō wa gi gi nic    na gi ni dāc    ʻis la ha la  
   ʻal ʻin ni na ʻi    ta gi diL ləc    la t'a    ʻal ni tsiis    gi ni da  
 30 sū kū wa    ʻis gā kū wa    zi da    dij gū    ha gi dite  
   na gi ni dāc    ha gi na    t'i gi    has da gū na ʻi    ta diL ləc  
   li ki zā    ʻi li    ta ləc    tsil    ʻal ʻin na    ʻis t'a  
   ta diL lāc    dij gū    la ma ni dāc    ha na    t'i gi    na ni dāc  
   tei di ni tei    ʻal ʻi ni    ʻis t'a    ta diL ləc    ʻa ka gū  
 35 da ma ni da    t'i gi ka wa    t'i gi    ʻi diL nite    ʻi wa  
   ʻi diL ni ti kō wa    la t'a    ʻis gā kū wa    na ni dāc    k'a  
   sit dān na    tei di ni dji    i Lil la    gūL haL    ha gū la    t'i gi  
   gū ga    gi nic    dij gū    ʻi diL nite    ʻi wa    na ni dāc

scalp too they take off they pretend. Four times to them they dance then they do that again. The boy these four men horses him they give. When they have done that hats they put on with them they dance around. They tell stories.

Then "Horse, scalp, gun I captured," they say then for them drum they hit. "Person I killed" they say. Many different things they have done they tell about. "Many times I fought too," they say. "Many horses too I captured too," they say. After that women who works for hats they hang up women their hats which had been taken down.

They give away property. Horses, clothes good they throw away. Those which are thrown away many get them. The speaker young men he says to, "Your turn, you dance. You throw away clothing. Those (?) who wish horse even they throw away. Horse for sticks any same place they put.

One by one young men they dance. First very drum who owns dances. Next to him belts who own they dance. The belt toward it they dance back and forth. Different songs with they tie around their waists. Then they dance around a circle four times. They sit down. Belts they hang up again. Swords who own they dance. By it middle young men toward one of women toward they dance. Past each other they dance. Four times they do that. The swords upwards they hold.

Then they quit. They sit down. Horse whip those who own they dance. All one after the other they dance. Women young men in front four times they dance that way. They sit down. They do that then the speaker dances one being he dances. Axe who owns in turn dances. Four times he dances around. He does that then he sits down. Whistle who owns in turn he dances. Twice he dances. After that then he whistles. And when he whistles all young men get up. Still who are sitting he whistles when he hits. He does that then to them he gives something. Four times he whistles. Then he sits down.

- 'is t'an nī 'aL 'in nī na 'is t'a ta gī dil lətc 'aL kət di  
 'ī gī na da' hī Lil la 'iL t'an nī 'ī 'is gā ka 'ī wa  
 sū kū wa nī ga yī ga 'is t'an nī lək ka tīL  
 'ī da dī teiL na la nī ga gī dī teij dīj gū la ma gī nī date  
 5 gū nī' ha dī tsin na 'ī has da gū na' ts'ī na yətc  
 ha nīc yū wū nī ma ga dī nīs tsī 'is Lī 'is Lī gəl la  
 ma ga nīs la  
 'is gā kū wa na gū t'in na 'ī 'is t'a ta gī dil lətc  
 dīj gū la ma gī nī date tū wa na ya tei na ta dil lətc  
 10 'as sa ta gī yīs nī hī 'ī Lil la dīj gū la ma nī date  
 'ī wa nīs ka ne 'aL 'ī nī 'is t'a dīj gū la ma nī date  
 ts'ū ka 'ī 'is Lī haL a 'as 'in nī 'is t'a 'as nī tsī  
 ta dil lətc la t'a 'is gā kū wa 'ī gī gī Lil la ta dil lətc tei  
 xin 'is dū wa da lin ne gī ma nī ta 'ī wa dīj na  
 15 'is gā kū wa ta zī k'a nī na teiL lətc xin 'iL kəs na  
 mī k'as sa dū 'is da nən na sū kū wa 'a ga dī dīn na  
 gī dī dī hī t'ī gī 'is kī ya sū kū wa gū 'a 'a 'ī  
 sin na tī gī 'ī na lək sū kū wa sin na das tī 'ī sū kū wa  
 zit da 'is gī ya 'ī 'ī na da tca t'ag ga na dī teis tei k'a sī  
 20 gū nī ga da' 'is gī ya Lī ka na dī nī 'is Lī ha la  
 'as 'in ne 'is gā kū wa sū kū wa gī za gū dī la ts'ī ka  
 'is Lī haL a 'as 'in ne gū nas sī na dī dac dīj gū  
 la ma na sin nī da t'ī gī 'is gī ya 'ī tsin na tī gī 'is dū na  
 sū kū wa tein na na dīs na mī ga nī na dīl te la t'a  
 25 sū kū wa 'ī tein na dīte 'a t'ī gī kō wa 'is gā kū wa  
 'is t'a la t'a sin na gī yī tite la t'a 'aL teis se  
 gū nīs na tī gū ta tei dī dīl te tsin na tī gī 'ī 'ī Lil la  
 'ī wa t'ī. has da gū na 'ī nai yətc gū nəl 'in nī na  
 'ī hac nīc da nī mīL tsin nī da' hī 'ī wū sis sī dal a  
 30 mī tsīs na 'ī wa t'ī gī has da gū na 'ī dī gī gū sīL a  
 'ī wa 'is lək ka 'ī dīj gū nəs 'in na 'ī ha gī la 'ī wa  
 'is gā kū wa 'a kī na 'ī da nī kū gī lətc mīL na tsī nī 'ī  
 xin dī dī 'ī tei dī yīc gū wa teis teū tī t'ī gī hau  
 tei nīte dū 'is nin na la la t'a da nī 'ī  
 35 gū ka na teiL lətc dī gī da nī 'ī 'a tsin nīs ta t'ī gī  
 la t'a 'is Lī gū ga teis tətē dū 'a tsin nīs t'a t'ī gī  
 gū nī 'is Lī gū ga teis tətē na tsī kwī yī t'ī gī  
 gim ma ga teic tətē 'ī wa dū ha tsin na t'ī gī la t'a

Arrows who own in turn they two dance. One behind the other they dance then arrows young men and women their eyes below arrows they hold. Who moves away immediately their faces they poke. Four times they dance around. Their faces who pokes speaker toward he walks. He says, "Yonder person's face him I poked. Horse saddle him I give."

Young men who work in turn they dance. Four times they dance around. Water who brings he dances, pail holding up with four times he dances around. Then shield who owns in turn four times he dances around. The woman horse whip who owns in turn last of all she dances. All young men with her dance.

Songs different kinds all have. Then four youngmen in the middle they place. Songs who sing their voices do not give out women for them who sing theysing. Then young man women worker hats he takes down. Women he puts them on. Women in front young man he dances. Sun the way it goes he leads them. Young man one another horse whip who owns young men women between he places. Woman horsewhip who owns the other way she dances. Four times when they dance around then the young man hats other women whose turn to wear them beside them theystop. All women wear them then young men in turn all wear them. All together one hundred times theydance hats with.

Then the speaker gets up. Those who own them he tells, "Food with the dancing you bring. We are going to eat." Then the speaker these clothes and horses too those looking on he gives to. Then young men two food they bring in then they take it around, songs four they sing. By them they put food then "hau," they say. Who does not say it immediately all the food by him they put down. This food theyeat up then all horse to him they give. He does not eat it up then he himself horse to him he gives. He vomits then to him he gives it. And he does not vomit

- gū wa teic teūz    ʔi ta si tū wa    gū nīs nān nī    ʔas sa    kit da  
 nī tsi tās se    La ka zā    has tās ga    ko wa    teis tic  
 ma dī wū tsa ga    gū ta    ʔi tei has tās ga    da nī ti    dū tī ga  
 nī La    dji dja    ta gi gū yī    ʔas sa    gū t'a    kit da    Lī kī  
 5 da nī    gū nas ʔi na    ʔi ha teic teūz  
     k'a tsis na    t'i gi    sū kū wa    ʔi wa    ʔis ga kū wa    ʔal na  
     na gi nī dac    dī dji    xin    k'a na tei gi hī    t'i gi    ʔal na  
     has dū gū na ʔi    nai yātē    ha nīc    k'a na na dac    ʔis nī  
     t'i gi    na tei dīlēc    mīL    ha na tsi dal ʔi    gi na    ʔi tei dī yīc  
 10 La na    ha dī ka na    sin na tī gi    gi ma ga    tei ʔatē    gi Līl la  
     dīj gū    da mīl le    ʔa na tein nī dac    mīL    dī dji ʔi t'i gi  
     ʔiL    ha na yātē    ʔi wa t'i gi    ts'ā    ʔa mīL ʔin na na  
     ha na tei ʔac    ʔi wa t'i    ta na tei dīlēc    ha dī ka na    nī dū wa  
     t'i gi    mī sin nī t'i ga na    ʔiL    ha na gū nī gi dac

*List of Dance Properties*

- 15 Lī kī zā    si na tī gi    dī t'ān nī tea    tea kū yīc ga    tī ga  
 ma ga    nī La    ʔi wa    māp ʔi    na mī ʔi    mī ka gū  
 nī gīs L'ū si    ma ga    da gi L'ū    mī tein na ga    da gi L'ū  
 ʔis tea zī t'a ga    ma ga    da gi L'ū  
     ʔi wa    ʔis Lī haL a    dī t'ān nī tea    dī dji    ma ga  
 20 da gi L'ū    dī na    sis ga na    zā'    ma ga    da gi gi L'ūc  
     dī na    dī Lī na    ʔiL haL na    dji    ʔi ga    da gi gi L'ūc  
     da nī    ʔiL teū na    zā'    gū wa    ʔis La haL a    dī Līc  
     ʔis Lī haL a    ʔi k'a    da nī    tei dī Līc    na mī ya    dī ka da  
     ka gi teāl da    mī Lū la gū    da tei gi L'ūc    tea kū za ga  
 25 mī k'a si    da dīs t'a    ʔa teis ʔic  
     ʔi wa    ʔiL t'ān nī    gū siL a    mī ka    dī gīs dīz    gwa teic ʔic  
     ʔis t'ān nī ʔi    ʔal teān nīs kaL    mī nī lāc ga    ʔa kī    dī t'ān ne tea  
     da gi L'ū  
     ʔi wa    nīs ka nī ʔi    gū yān nī    ʔi gīs La    ʔi tei  
 30 dī ma tsa ga    mī t'a    yī dji tic    dī dji    dī t'ān ne tea  
     ma ga    da gi L'ū    las teū    ʔi Līl la    La t'a    tas teiz    ʔi wa  
     La yī ga teis tī    ʔis ga ka    ʔa giL ʔi nī na    La t'a    gū tsi ta  
     las teū    ta tsis teai  
     ʔi wa    tea si za lī ʔi    tea si da    mī t'āc    mī tea    ʔa k'a  
 35 nī gīs teac    teū hwū wa    ʔi Līl la

then all they take the food around. Tea ten pails in. Bread one sack for them they bake. Crackers five boxes, beef not very much, berry soup pails five in. Some food those who look on they give.

They finish eating then women and young men in turn they dance. Four songs they finish singing then in turn the speaker stands up. He says, "You-make an end of dancing," he says then all get up then they go out its song they sing. One of them who has-been wounded hat to him they give. With it four times entrance he dances up and back then after the fourth time with he goes out. Then outside to the owner he gives-it back. Then they go home. Wounded person there is-none then whose hat it is with he leads them out.

#### *List of Dance Properties*

One hat hawk tail, weasels very on it many. And sword otter skin on it sewed up to it tied on. Its handle tied on hawk feathers on it are tied.

And horse whip hawk tails four to it are tied. Person who has killed only to it ties them on. Person somebody who has whipped too to it he ties the on. Gun who has captured only for it whip paints. Horse whip on gun he draws. Otter skin beaded stripped long way for the handle they tie on. Weasel skin along it in bunches they make it.

And arrow beads on it they twist around they make-it. Arrow forked at the end two hawk tails they-tie on.

And shield deer skin stick circle inside they-place. Four hawk tails to it they tie on. Yellow paint with all are painted. And across the breast young men who own it all their bodies yellow they paint them.

And crow neck lace crow its wings, its tail on it is beaded porcupine quills with.



'i wa 'is ka si 'i di t'an ne tca mi t'ag ga ni lül da  
 gū sit l'a mi ka di gis tiz gū tca gū ha gi 'a 'a teic 'ie  
 tei gi ca ma gū ni lit da 'i kie gwa gū teic 'ie ma ga  
 da 'i da tsa tsa da 'a teic 'ie

*The Dog Feast*

- 5 na ni dac na mi na dji na ti ga 'a gū ti la t'i gi  
 ha nie li cai gis la hi di ni di na gi la 'i wa gū wa  
 ta ts'i di dli li tca ni tei tcat da ta la tei yi l'ue sa kū wa  
 gū l gās na cai gū l 'ie mi ni gi kū 'a ka teit di 'i lāc  
 'i wa ha teit die k'ate ma ga ts'i gi na 'at teil 'ite 'as sa  
 10 ma gū ni lit da ki da teil late dij gū mi tū na tei die gūc  
 'a t'i gi kō wa li ka ni mi ki da teic gūc sū kū wa  
 cai gi lan ni 'i di gi ga kwī yi ga 'a lū gū sa 'a  
 tca na 'as tca' tsin ni da' da ni mi l tsin ni da hi 'i  
 mi da ka ni ja ka ga si la 'a teic 'ie has da gū na 'i  
 15 ha nie 'i wa li 'i kwā l a tei jū ni 'al 'i ni gi ts'i  
 di yate 'i wa kū tei late dū la na ts'i 'a sū kū wa  
 gū 'a 'a 'i l'ū tsin yi ga tsit di ta gis k'is 'i k'a  
 na gi 'ac l'ū tsin na ts'i 'a ziḡ da ts'i yi ga  
 ta mi tei die nie ta za teij ti gū ts'i ta mi teit die nie  
 20 la ga teiz di gū teis 'i djū 'i wa win ni t'as si djū  
 ta mi tei die nie li 'i na tei di 'ate l'ū tsin na ts'i 'a hi  
 ni da tats tsa 'al dij gū mi ts'i na ka yi tsa 'al  
 'a t'i gi ko wa mi ga na gi tei 'ate sit di' ka hi ma gū ni lit da  
 mi ka ta teic teūc 'is ka si 'al 'in na li ki zā ma ga  
 25 ta tin na ts'i di na teic teūc 'a t'i gi k'a ni date  
 gi mis kas sa gi mi na ka na tei lāc  
 dij na ka t'ū na ga 'a teit l'a gi di nil teite 'as sa k'a  
 li mi ki da si la 'i tsit di 'i k'iz za na teil teūz 'is ka si  
 'al 'i ni ma ga tei di teite na ni da hi t'i gi 'a ka gū  
 30 'as t'a si 'i di dac 'is ka si 'at di na ni dac dij gū  
 ha t'ie 'a t'i gi ko wa 'is dū wa xin ma ga na teit di yie  
 'i wa yi ts'i 'i di dac ta gū yi 'i nan ni dac mi l  
 di dji 'i t'i gi yi ni gi ni da ga t'a ka 'i di dac 'it di da  
 zit da 'il t'an ni mi ga tei tite li ta zil la  
 35 kit da teic di ni ka t'i ne 'i ni la ga sit da 'e za ka

And belt hawk tail its feathers long ones beads  
twisted around like a tail sticking out they make. Cloth  
good hanging they make. On it in rows crosswise  
they make it.

### *The Dog Feast*

Those who dance their relatives very are sick then  
he says, "Dog I will make feast this person may be-  
well." Then for him he says a prayer. Dog small  
they hang. Woman who is neat cooks it. For it fire  
for it they kindle. Then they burn the hair off. Care-  
fully (!) they do it. Pail good in it they put it.  
Four times its water they pour out. Then sugar they-  
pour in. Women who cook it their tipi inside they-  
leave it.

Long time first they dance. Food with they dance  
for it few lies there they make. The speaker  
says, "Then dog bring in." The sword who owns  
to it goes. Then he brings it in. He does not put it down.  
Woman who works for sweet grass under it charcoal  
burning on it he puts. Sweet grass he puts it before  
last he holds it up. Noon place toward he holds it up.  
Where it sets toward too. Then toward north too  
he holds it up. The dog he puts down. Sweet grass where-  
it is they hold it above. Four times to it they move it  
then beside it they put it down. On blanket good one  
on it they spread down. The belts who own one of them  
for him before the doorway blanket they spread. On that  
he sits. His belt beside him they put.

Four men opposite the door they sit down. The pail  
dog is placed in blanket one side they move. Belts  
who own for them they sing. He dances then twice  
back and forth he dances. Belt without he dances.  
Four times he does that. Then another song for him  
they sing. Then to it they dance. Three times the side-  
of it he dances then the fourth time to it prairie-  
chicken like he dances. He starts dancing before arrow  
to him they give. Dog soup he pokes it in. This man

- kū gī teite      gū na sa      ta dī yac      ʻis dū gū      ta na dīl ləc  
 ta gū      yī ʻin      nən nī date      mīl      dī dji tʻī gī      nī da ga tʻa ka  
 na dī dac      lī ta zī la ʻī      kit da naḡ gī teite      ha dī ka na  
 tʻī gī      gū wūs la dat tsū      ka gīl dīte      dij gū      ha tʻie  
 5 dij na      ka tʻū na ga      dīs tsin na ʻī      hac ʻie      lī tea ʻī  
 ʻil tʻan nī      ʻī līl la      ta ka sil la      maḡ      ʻas ʻin na      yū wū  
 dij na      ka tʻū na ga ʻī      nī tei tea      gī ma ga      yī teiL teūj  
 gū nī la ga      sit da na ʻī      lī tsī tsin na      ʻa teiL teūj      ʻī wa tʻī gī  
 gī ḡat tei gū dīl dūL      lī      tei tsin na ʻī      ta za kʻa      na tei ʻate  
 10 ʻī wa tʻī gī      ʻis ga kū wa      sū kū wa      la tʻa      lī ʻī  
 ʻī teis na      da nī      ʻil      lū ka      na tsin na      ʻī teis na ʻī  
 ʻī nī kī      sū kū wa      tei na tī gī      ʻal ʻin nī na      ha nīc  
 ʻa dī na ka      ʻī sī na      ʻa tʻī gī ko wa      la tʻa      hau      tei nīc  
 dū      hau      ʻis nīn na      la tʻa      da nī ʻī      ma ga      teiL ləc  
 15 ʻī teis na      zīt da      xin      gī ma ga      ʻī tei dī gīc      sū kū wa  
 sī na tī gī      ʻal ʻin nī na      ta gil ləc      ʻa tʻī gī ko wa  
 na gī nī date      ʻa tʻī gī kō wa      ʻī tsī na      la tʻa      ʻa tʻī gī  
 lī tsī tsin na      ʻī tsʻī      dī date      dij na      ka tū na ga      ta za kʻa  
 dīs tsin na      yī tsʻī      ʻī dī dac      lī kī za      ʻas tea      tei dī teite  
 20 la tʻa      ʻis ga ka      na i dīlce      ma gū lī nī      gū la zīl ləc sī  
 ta zit da nī      tei jilce dji      na tei dī nī djite      ʻa tʻī gī kō wa  
 lī kī za      ka tʻī nī ʻī      la ma dī date      ʻil tʻan nī      ʻī līl la  
 dij gū      mī tsī tsin na      ʻil tʻan nī      ʻī līl la      kas gū  
 ma na dji kie      dij gū      dī na      ka tʻū na ga ʻī      ha kī tʻie  
 25 la tʻa      ha gī nī da ha      gī mī ka      ʻa na tsit dīl dīlce  
 sī nī yī nī zin na      ʻis lək ka      ha na teit dīl halce      tei jū nī  
 ʻal ʻin na ʻī      tei gī ca      sit tən na ga      ʻī līl la      la ma dī yac  
 lī tsin na ʻī      mī kī da      tsī la  
     lī      ca la hī      ʻī nī zin nī na      ta sit dī dīl hī      ʻa kū cən na  
 30 mis tʻū tī      ʻa gī tīc      gī ma ga      ta sit dī dīl      gū na sa  
 gī na dac      gū ha      gī nīc      dī nī      lī      ʻī nī zin nī  
 gwa gū nī lī      dī na ʻī lī gū la      dī na tei na      ʻī līl la  
 sī na tī gī ʻī      ma ga      sit dī      na sī dī nīL(s) teūte      ʻa tʻī gī  
 yī kʻa      sin na tī gī      na teiL ləc      sī na tī gī ʻī      ʻa ga  
 35 ta tsī dī dīl      ʻa tʻī gī      mī yī ga      lʻū tsin      teit dīl kʻate  
     ʻī wa      da ga na tei dīl ləc  
     la ka kʻa tsis na      tʻī gī      dij na      mī tsʻī      dī dīlce  
     ʻis kas sī ʻī      nī na tsil la      tʻī gī      ta tin na      gī gī līl la  
     ʻas da dīlce      ta za teiz dī      gū tsis ʻī      na gī dīlce      ʻī wa

at the end who sits his mouth he pokes it in. Before him he walks. Again he dances. Three times the side of it he dances then four times prairie chicken like he dances. The dog soup in he pokes, a wounded person then his cheek he wipes it on. Four times he does that. Four men who are sitting he does it to. Dog arrow with he takes out. Sword who own those four men small-pieces to them he gives. At the end who sits the dogs-head he gives. Then they take the meat off. Dog its-head bone in the middle they place.

Then young men, women all dog they eat. Food with together they serve. Those who eat for them women hats who own says, "My friends, let us eat." Then all "hau," they say. Not "hau," who says all the food to him they give. They eat before song for it they sing. Women hats who own dance. Then they-dance. Then the bones all there dog head bone toward they dance. Four men in the middle who sit to it they dance. One first they sing. All young men stand up. Right hand upward they hold they shout. They sit down again. Then one man dances around a-circle. Arrow with four times its head bone arrow with gently he pokes. Four times these men do that. All while he dances on them they throw away. Those who want to horses they throw away. The sword who-owns cloth thin with he goes around. Dog bones on it they put.

Dog who makes feast who are called on they pray. Who knows how pipe they give. For them he prays. In front of him they sit. For them he says, "This dog who called on happily may he live his relatives with." The hats for them blanket they spread. Then on it hats they put. Hats for they pray. Then under them sweet grass they burn. Then they hang them up again.

They finish eating then four to it go. Belt they-bring back in, then doorway with it they stand. Noon toward they stand. Then sunset toward. Over there toward north too. Then they come in. Belts who own

La ga teiz di      gū tsiis 'i      yū wū'      win ne t'as sī      djū  
 'a t'i gī kō wa      kū gī di lte      'is kas sī      'al 'in nī na 'i  
 ka la gī gī dil teite      gī mī nək ka      tsit di      na tsit di nī ləte  
 'i wa      'is kas sī 'i      da mī tei dil ləte      'i wa t'i gī      gī gī ma ga  
 5 di djī      xin 'i      teit di yie      gim mīL Lil la      gim mī kal-  
 teit dil L'ūte      'a t'i gī kō wa      la na gī nī dac      ha gī na  
 t'i gī      la t'a      'is ga kū wa      mī Lil la      ka tei dil L'ūte  
 'a t'i gī kō wa      ma na teit ləte      'i wa      ha na teil ləte      ka wa  
 kū na teil ləte      'is ka sī      tei na tī gī      'i Lil la      gū tsil la sī  
 10 t'i gī      tein na teil tite      la teit di date  
     mī li tei ka      nī lən na      'a t'i gī na      ka gī mī tei die cūj  
 sin na tī gī      'al 'in nī na      k'a      gī nī dac      gwa gī mī teil 'ite  
 kī gī djī      ma gū nī lit da      gī ma ga      teil teūc      'i wa  
 'is la      ma gū nī lit da      gī ma ga      teil ləte      tsī di      ka hī da  
 15 gī ma ga      tei gī nie      ka      da nīs teac da      gī ma ga  
 tei gī nie      tsō la      gī mī tsō la      gwa teic 'ie      gī ma ga  
 teit di teit      'i wa      ta gī mī      tei di yī ləte      gū k'a      na gīs nī  
 'i nī zin na      gū ka      ta gī dil ləte      sū kū wa      sil la sin na  
 gī mī ka la k'a      gī mī k'a      ta dil ləte      'is lək ka      'a kī 'i ka ka wa  
 20 ta kī ka ka wa      ma gū nī lin nī k'a      na tei gīL nite      gū zil la 'i  
 tī ga      nī la      na tei gīL nite      ka tei djī hī      t'i gī      sa kū wa 'i  
 na gī nī date      tsil la sin na 'i      gī ma ga      gū tei nij  
     sī na tī gī      'i Lil la      gū tsil la sī      t'i gī      di djī      'i L'i gī  
 tī za      tei nī date      'i wa      di djī      djī nī sī      ha 'i tsī nī da  
 25 ha gū za  
     gūL 'a Lī daL na      zā      'a t'i gī na      tsin na tī ga      nī dō na  
 zā      zin na tī ga      sin nī da ta      mīL      na xin na tsī 'a      mīL  
 ha kū tei ga      sil lī      mīL      gū sil la sī      t'i gī      Lī kī za  
 di na      ta lək      ma ga      yī tsī 'a na      ma gū Lī nī      gū la  
 30 tein na      'i Lil la      na gū tei cūj      dij gū      la ma gū teic cūj  
 gū ga      gin nī dac gū la      sin na ka      'i wa t'i gī      gū tei nī teite  
 di ka ha lī tsa ha      'i Lil la      la t'a      gū nī      gū wūs la da tsū k'a  
 mas gū      ta Lī gī tsa      tei di Lie      'a t'i gī kō wa      na tei yəte  
 gū la sin na      djū      nai yəte      gū wa      djū djin      dij gū  
 35 la tei nī date      'a t'i gī kō wa      na tei nī date      ta zī ka  
 tsiis da      di tei      'i L'a gī      teas din na      na tei təc  
 'a t'i gī kō wa      'a gūL 'in na      'at t'ic

they place in the middle. Behind them blanket they spread. Then belts they bring. Then for them four songs they sing. With them they tie them around their waists. Then they dance around the circle. They do that then all young men with them they tied on. Then they give them back. Then they take them out. Tipi they take them in. Belt hat with they give some one. Then they put them on. They dance around the circle.

His horses whose are many those they put in the middle. Hats who own beside he sits they make. Coat good him they give. Then trousers good him they give. Blanket new to him they give. Moccasins beaded to him they give. Earrings their earrings they make to him they give (?). Then in front they dance. On them I will offer who thinks on them they dance. Women to whom it is given their husbands on them they dance. Horse two three good ones they offer. Clothes very many they offer. They finish singing then women get up. To whom it is to be given for them they talk.

Hat with who is to receive then four nights only they sleep. Then four days dancing this way they keep on.

Those who fight only those hat dances only hats when they dance with it they give orders. With it chiefs they become. With it they give it then one person dances. To him to whom it is given right his hand wrist with they pull him up. Four times they lead him around. Beside him he sits, beside the one who gives it. Then they paint white man's paint with all their faces. On their cheeks like rings blue paint they paint. After that he gets up. He who gives it too gets up. For them they sing. Four times they dance around. After that they sit down again. In the center they sit. Four nights by himself he sleeps. After that the owner he becomes.

## SOCIETIES

## ts'i

La t'a 'is ga ka 'i wa ka t'ū na ga zā yil ta dilte  
 La t'a t'a gim mī tsī ga da gī L'ō 'aL t'a tī 'a gī t'i  
 'i ts'a ga ka ga na gim ma la tein na 'ai gīs L'ō ta gū  
 ta gī dī dilte 'as ts'a mīL dī dji 'i t'i gī xa gīl tie  
 5 gī ga na L'a na 'i ka ga na 'i 'i Lil la gū tsī xa git dī te'ij

## tas gīL na

'is ga ka 'i wa ka t'ū na ga zā yil ta dilte ta La gin nī da hī  
 t'i gī xa gīl tie gī gīs teō na ts'it da tea gō ta  
 ta gī gīs te'ūlte 'as t'a tī 'a gī t'i 'a kī yī t'a  
 gim mī tsī ga da gīL L'ō

## Lī kū wa

10 ka t'ū na ga 'i wa ts'i kū wa yil ta dilte ka t'ū na ga 'i  
 mī tea dī t'i gī 'a ka sī gī gī da 'i gī dī da hī t'i gī  
 ts'i kū wa 'i tei gī ca 'i la ga gū gī ta nī Lil la 'i gīn na da

## na gūl te'ūj na

'is ga ka 'i wa ka t'ū nī ga zā yil ta dilte  
 'as t'a tī 'a gī t'i ta k'i t'a gim mī tsī ga da gī L'ō  
 15 ta gū ta gī dī dilte mīL dī dji 'i t'i gī xa gīl tie  
 gī gīc teō na gī na nī ta ta ga gīL te'ūlte

## da wū

'is ga kū wa zā yil ta dilte 'i ts'ū sā zā  
 gim mī tsī ga dai git L'ō te'i dī nī tei gī mī za la mās gū  
 ta gī dī dilte mī na ga ts'is t'ū na gīs tsa hī t'i gī  
 20 ta la gī dil gīc 'a t'i gī kō wa ta na gī dilte

## QUALIFICATIONS AND DUTIES OF CHIEFS

na hī ne dī na ti 'is dū gū 'a dī na sa dli 'a Lī ts'i daL L'i  
 t'i gī gū dja gūs t'i ga ts'in nās 'i gū dī ma te'i djin na  
 na sīL qan na 'i wa da nī tī 'iL teū na' ha kū tei ga tī

## SOCIETIES

*Mosquitoes*

All young men and men only dance. All feathers their hair are tied on. Naked they are. Bird claws their wrists are tied on. Three times they dance, first then fourth time then they go among the people. Those they catch their claws with their heads they-scratch.

*Police*

Young men and men only they dance. They dance then they go among the people. Those they catch blankets breech cloths for they tear up. Naked they are. Two feathers on their heads are tied on.

*Dogs*

Men and women they dance. The men red cloth they put around their shoulders. They dance then the-women end of cloth they hold with they dance.

*Preventers*

Young men and men only they dance. Naked they are. Three feathers on their heads are tied on. Three times they dance then fourth then they go-among the people. Those they catch their clothing they-tear to pieces.

*Dawū*

Young men only dance. Soft feathers only on their-heads are tied on. Whistles around their necks in a circle they dance around. His eye who is shot they see then they run away. After that they quit.

## QUALIFICATIONS AND DUTIES OF CHIEFS

We Indians different ways when we were living, when-we were fighting each other then well just when he was-looking at him his enemy who killed; and gun who-



'a gi t'ic di ma' kū 'is Lək ka nī la nī' nī 'e na'  
 'a t'i gi na djū ha kū tei ga 'a gi t'ic mit tsan naɣ ga  
 gū djan na gū yī la gū dī nīc na dū ka ts'i dli na 'a t'i gi na  
 djū' ha kū tea ga 'a gi t'ic ts'as dī na na dli na  
 5 mīs t'ō kas 'as 'in na' 'a t'i gi na djū ha kū tea ga  
 'a gi t'ic ma ga gū la gū dət dlic na' 'a t'i gi na' djū  
 ha kū tei ga 'a gi t'ic 'a k'a dū gū tsis dīs teül na  
 tsa ga k'i gi dji dū wī yī ya' gū tsis gī dīs teül lī t'i gi  
 tsa ga k'i gi dji yī gi yate 'i wa t'i ha kū tei ga 'a gi t'ic  
 10 'a t'i gi na ha kū tei ga t'i na tsa ga k'i gi dji 'i da ha kū tei ga  
 gī na 'i dī dil lī 'i līl la nīs te'a tei i līl la 'as daL t'ā  
 ha kū tei ga na 'i ma ga 'i ts'is na gū gī gī la na gū  
 mī ts'i 'i ts'i ka na gū dī na ma ta gū lī na gū ts'is t'i hī  
 t'i gi min na ga te'in nīc na kū nī 'i nī gū ha kū tea ga  
 15 sī lin nī t'i gi xa dī na gī lin na 'a lī ts'i zī ga t'i gi  
 'ha kū tea ga 'i gū ts'i dī yac gū zis ɣan na 'i has te'i nīc  
 yū wū 'i ts'i zic gī nī mī na djin na' 'is Lək ka nī lan nī  
 gū zīL la nī lan nī gī ma ga nīl la gūc nīc  
 min na djin na' ts'iz zis gī ne na gī ma ga ts'il la t'i gi  
 20 na nīs sī dū 'a lan na ts'i gī nī la

## SHAMANS

tī ga ɣwa gū dī la t'i gi 'i zū nī 'i wa t'i gi  
 'a ga gū yī lin na 'as te'in nīc xa gī ya t'i gi gū ts'i  
 kū gī yate ma gū dī la na 'i tal gim ma ga na ts'is teūs sī  
 k'a gin nī tate na ɣa gū gīt dīl nīc 'i wa t'i gi gī djin  
 25 ɣwa gū dī la 'e xa gū gīL t'ōt la yī gī ɣic k'ac xa gī na  
 t'i gi xa na gī yate gī gī na gū dja gūL 'ite tei  
 ha nī da t'i gi 'is Lək ka gim ma te'il ləte ha nī da t'i gi  
 gū sīL la gim ma ga te'i ləte 'a ka kō gō 'a gū dja gū gī la  
 t'i gi dī na te'i ləte ha nī da t'i gi ta gū gū dja gū gī la  
 30 t'i gi dī na te'il ləte 'a kō ha 'a ga lī te'i gī Lite  
 lī k'i gū tsəɣ ga kwī yī ga ɣwa gū dī la t'i gi 'i wa t'i  
 L'ō lī te'it dī 'ate gī mī ɣa na gī ts'i 'ate L'ō 'i 'is L'a  
 kī ta gī gī kate gī gī zīz 'a t'i gi gō wa gō tsa ga 'i  
 dī na te'il ləp 'i wa mī tsī' 'a gū dī lan na tī ga  
 35 'a t'i ga kū gī mī na sa na te'a 'ate L'ū mī k'a  
 ta te'e 'ate 'i wa t'i gi yī nat da gī yīL tsin 'a t'i gi

captured chiefs they became. Scouts horses many they stole those too chiefs they became. His heart kind, fond of inviting, not stingy, those too chiefs became. By themselves another kind, pipes who own those too chiefs became. His tipi many who had painted those too chiefs became. Yet who had not taken scalps scalps shirts they did not wear. Scalps those having taken then scalp shirts they put on. Then chiefs they became. Those who are chiefs scalp shirts chiefs their uniforms metal with beads with they are like.

The chief his tipi to eat he invites. From him they may ask anything. Person bad thing who commits then to him he tells him he must stop it. Chief who becomes then he lives this way. They kill one another then chief to him he goes. The murderer he tells, "That one you-murdered his relatives horses many, clothing much them give," he tells him. His relatives who was killed to them he gives. Then in the future they do not hate-each other.

#### SHAMANS

Very he is sick sickness then medicine man he asks. He comes out then to him he goes in. Sick person blanket for him they spread on it he lies. He feels-over him. Then he sings. Where the sickness is he sucks. He throws it in the fire. He does this then he goes out. For it well making him sometimes horses to him they give. Sometimes clothes to him they give. Twice he has doctored him then he gets well. Sometimes threetimes he doctors him then he gets well. This way we-doctor each other.

Another kind his chest inside when he is sick then herb he puts on the fire. Beside him he puts it. Herb cup inside he dips. He drinks it. Then his chest gets well. And his head when it aches very much then fire in front he puts it. Herb on it he puts. Then over it he smells. Then they do that they get well. And

dī gī gū ts'i ɛ gū dja na t'ie ɛ wa gū ts'it ta gūl wil Lī  
 t'i gī L'ū ɛ gī gī ɛal gūl wil i L'ū i Lil la gī gī dī jūte  
 ɛ wa t'i gū dja na t'ite dī L'ū ɛ gū zīl a nī La ne  
 gū ga gī gī nīc gū tsī ga gwa gū dī la ɛ t'i gī L'ū  
 5 gū te'i dī jūc ɛ wa t'i gī gū dja na t'ite gū ziz za teū  
 ɛa tsa gū ka hī t'i gī L'ū te'a dī t'a da mī da  
 ts'it dī ɛa hī t'i gī mī dī da dū gū xa yīl nīlte ɛa t'i gī kō wa  
 dī na te'i lāc dī gī ɛ zūn nī ɛ gū dja te'is ɛ ɛin nī gūL  
 La na ta teate ɛ wa gū dja te'ic ɛ na' nī Lān na  
 10 dī nāl lāte ɛ wa ɛa kū gū dja ɛa Lī ts'i ɛin

## SPORTS

ɛa kī a ka ɛa Lī ts'i ta za ts'is ta ta ka zīl la sī  
 da gī gīL L'ū ɛa kī yī gim mic yīlte ka wa gū mai ya  
 tsis k'a ka ts'a gī dīlte gū zīl La ka ts'it dī la' ɛas t'a dī  
 gūs tī ga ɛis ka ka gī mī k'a ta ts'in nī dac gūz za gū  
 15 na gī L'a ta gī dī Līj gū wa ha La ta k'a gūL zīl La ɛ La t'a  
 na kī dī Lac  
 ɛis ga kū wa tī ga yīL L'āL na ɛa Lī ts'i ta za dī tən na  
 ka wa gū mai ya na ts'it dīlte da t'i gī ka wa dī dīl le  
 ha kit dja ga gū ts'i xa gū gis sa gī dīl Lite gū wa ha dlan na  
 20 gū zīl La ka ts'it dīl la cī na gī dī lāte  
 gū dja ɛ dī te'ac na ɛa sa t'i ɛis nī na ɛ wa t'i gī  
 ɛā te'in nīc t'i gī gū zīl La ka ts'i dī lāc sa ɛa nī  
 te'ic t'a ts'i na ts'i ɛate dī gī da na t'a gī djite La na  
 ɛan nī nī ne ɛas tsa ɛ nīL t'ū' ɛ wa t'i gī ɛa ga  
 25 sa ɛa nī gīL t'ūte gū gī te'a ta ɛ tēi na gī dī te'ite ɛ wa  
 Lī k'a ɛ is t'a ɛ dīs t'ūte sa ɛa nī ɛ ɛ te'an na  
 te'a gūL dīte gū zīl la na gī dīl lāc ca ɛa

## PAINTING OF TIPIS

gū tei dī Līc cī t'i gī tsī ɛis Lāk ka dī dji kī da  
 ɛat teiL ɛite tsī dij na ɛis ga ka dī dji mas  
 30 ta ka lāl tsī ɛ mas ɛ tsī kī da teiL lāte ɛa kī na  
 ta tīn na zī ɛa teit L'a ɛa kī na na zī mas ta ka tīL  
 ka wa gū ts'i mas ɛ ta gī gīL nī mīL dī dji tsī  
 ka wa gwa gī yīL teūz ɛ wa ɛa gī t'i gī ka wa

part of his body swells then herb he chews. The swelling herb with he blows. Then it gets well. His herb clothing much him they give. His ear it aches herb he blows in then it gets well. His large veins one-cuts then herb holy its opening he puts in then its blood does not flow. After that he gets well. This sickness they doctor even some die. And well who are made many they get well. Then this way well they make each other.

#### SPORTS

Two horses to each other praising heads (?) they tie up. Two days after camp away on a hill they go up. Their clothes they bet. Naked just young men on their horses they mount. Far where they stop they race. The winner clothing all he takes.

Young men very who run fast to each other praising-themselves camp from they gather. From here money chief's house from that far they start. Who wins clothing which they have bet he takes.

Well who shoots, "Let us bet," he says. Then "Yes," he says. Then their clothes they bet. Target side of the hill they place. Their guns they load. One of them says, "You, first shoot." Then the target he shoots. Where it strikes stick they stick up. And the other in turn he shoots. The target who shoots he wins. Clothing he takes.

#### PAINTING OF TIPIS

They paint a tipi then paint in cups four in side they make paint. Four young men four rings holding paint the rings paint in they dip. Two persons before-doorway stand. Opposite the door two persons stand. Rings they hold. Tipi to it the rings holding up with fourth time tipi they put on the cover. And there tipi

gū tei dī Lie    ʻi wa    kū wī ga    dī dji    ʻis la    kī t'a  
 sī ka    ʻa tei L'a    dij dī    L'ū tsin    sa ʻa    kwī yī ga    sa ʻa  
 tsa sī ha dū wa    ta tin na    kwī yī ga    gū gī dis k'an  
 gūL teit djin nī    t'i gī    Lī kī zā    na nī tei tea i    Lī kī za  
 5 dī na    kwī yī ga    dīL tsin na    ka wa    gū ga    teiL teū dī  
 t'i gī    tei tea ʻi    mī tea gū lin nī    dij gū    zā    gū za ka  
 zī ka    ʻi wa    ka tsit tsa dī    t'i gī    gūL dī djin    gū gī na  
 ʻi wa t'i gī    ka t'ū na ga    ka wa ʻi    ma ga    gū tsa ʻa hī  
 gū Lil la    ka mī ga    tsas dī na    kū yī ga    nī tate    dī dji  
 10 ʻi L'a gī    nī tate    ka mīL gūL dī ka wa    k'a nī ta    t'i gī  
 ʻi wa    ʻa t'i gī kō wa    mī ts'i    kū na teit dīLte    ʻa t'i gī ko wa  
 mī Lil la    ka gū teiL lite

## BUFFALO POUNDS

xa nī    nas ʻa ga    ʻa tsī la    t'i gī    ʻis ga ka    xa nī  
 ʻa ka ʻi tic    na mī tsin na wūL Lī    t'i gī    min na da  
 15 ʻi tei dī te'ac    ʻal tsin nī ga    na da Lī    t'i gī    maz tsī  
 ʻa teic ʻic taz na    na kū jīj    ʻi wa    kū dīLte    mī gī na  
 dī na    ka tein nī tic    kū gī sī    mī teiL t'ū    La t'a  
 mī ka tei gac    ʻi wa t'i gī    na tsīL ʻal    La t'a    ʻa lin nī  
 ʻi Lil la    ta na teit dīL

## TRAPPING BEAVER

20 ta ga    min na    dī dīL lī    ʻis teū tsī    min na  
 ʻa La tei dī ʻac    mas tsī    ʻi tei    sit L'a    nī da sit dī tsī  
 dī dīL lī    ʻis teū tsī    ʻa tī tī gī    ʻi tei    ma ga    na teit dīL nīc  
 ʻa t'i gī ga    da tei gī L'ūc    ʻi L'a tsī    ʻi t'i gī    mī ts'i  
 na teit dī yac    mī ka    teiL djūs    tsiz ʻic gac

## PRIMITIVE DISHES

25 dza na gū    ts'ā tea    cī djon nī    dī dīL le    mīL  
 na gū ts'i tin nī    nī dū wa gū    ʻas sa'    dī dīL lī    mī ga  
 sa te'is in ne    nī dū wa gū    gū L'is    ʻas sa' gū    ʻa te'is ʻi  
 dī kas kū na kan    t'i ge    gī gī kit da    da nī    i kit da gī la  
 mās    i ts'in na    mās    ʻa gīs ʻi    dī tei teū    ʻi tei    kū da  
 30 k'in nīs t'as sī    gim mī ts'is La xa    xa nī da    ʻas sa'    kī da gī la  
 ʻi t'i ge    ʻi Lit da    ʻa gīs ʻi nī    t'i ge    ʻa ts'a kī gī sūz    ʻis L'a  
 gwa ʻa gī gīc ʻic

they paint. Then inside four cups inside stand. Opposite the door four places sweet grass is placed. Inside it is placed. Cedar doorway inside they burn, then they sing, then one our berries each one person inside who is sitting tipi to them they give to eat. Then the berries spoon four times only in their mouths they put. Then they finish eating then they sing its-songs. And then man tipi for him to whom it is given with on the prairie by himself inside he sleeps. Four nights he sleeps. When the day ends he finishes sleeping then after that to him they go in. After that with it everything ends.

#### BUFFALO POUNDS

Buffalo corral they make then young men buffalo for ride. They drive them then over them they shoot. Beside the hedge they go then both sides those who hide get up. Then they go in around them people everybody from the outside shoot them. All they kill. Then they butcher them. All meat with they go home.

#### TRAPPING BEAVER

In the water its hole iron trap its hole they put-outside. Both sides sticks small they stick up. Iron trap the wire stick for it they drive in the ground. There it is tied. In the morning then to it they go. Its legs are caught. They kill it.

#### PRIMITIVE DISHES

Long ago old woman aged iron with made from when was not, pot iron in it one cooks was not clay pot she made. This she fired (?) then in it food she put in. Knife bone knife she made. Large stick stick inside she hollows out, their plate. Buffalo horn pot they put in. There it is soaked they make it, then they split it. Cup they made.

## STONE ARROWHEADS

'is t'an ne    'a gī la    'a t'i ge    dī dīl lī    nī dū wa    tsa  
 da dū wa gū    'a gīs 'ī    tsa    gī yī līl la    ī tē'al lī  
 'a gīs 'ic    tsa    dī dūL lī    k'as L'ū    gī gī tēin na    'ī t'an nī  
 t'i gī    'ī ts'in na    ta gin nīl tsal

## WHAT EAGLE-RIBS SAW AT EDMONTON

- 5    'ī ge    nas 'a ga tēu wa    xa nī    dī glic sī    yīs 'ī  
      'a t'i ge    xa nī tī<sup>2</sup>    yīs 'ī    'a t'i ge    gū ts'i    nas 'a ga  
      yīs 'ī    'a t'i ge    gū tēa ga    nas 'a ga    na gīs 'ī    gū tēa ga  
      nas 'a ga    na gīs 'ī    na lī    gū ts'i    na cī na    'a lī ts'i da lī  
      ma gī nī ca    na ts'i ma hī    'ī tēi    nas 'a ga    gū ts'i  
 10 'a gū nī ca    da nī tī    gū dja    ma gū nī ca    tē'i ge ca  
      gū dja<sup>a</sup>    yīs 'ī    gū cī ca tī    gū ts'i    'is lək ka  
      ma gū nī lin nī    yīs 'ī    yī gī    gū za dī    gū ts'i    da nī tēu  
      yīs 'ī    lī t'i ge    ta na kəs e    yīs 'ī    yī wū    'ī ga ha lī  
      ha kī dji    yīs 'ī    ma xa yī 'ai ye    yīs 'ī    mas yīl L'al ī  
 15 yīs 'ī    dī na tī    'is dō na    yīs 'ī    da tēis ī    yīs 'ī  
      dē ga ha lī    tēa dī t'an na    yīs 'ī    dī dīl lī    yīs 'ī    dī na tī  
      gō ts'i    yīs 'ī    na cīn na    gū ts'i    yīs 'ī    mī tē'a ga  
      'as dja    dī gī nī dji    gū ts'i    yīs 'ī    ta lī gī ts'a    gū t'in na  
      yīs 'ī    dza na gū    ha lī kū wa    yīs 'ī    dzan na gū  
 20 ts'a kū wa    yīs 'ī    dzan na gū    ts'i kū wa    yīs 'ī  
      dza na gū    'ī ga ha lī    ts'i kū wa    yīs 'ī    dza na gū  
      mī ts'i ga nī tēu wa    yīs 'ī    dza na gū    na dūs zī ga tēu  
      yīs ī    ma ga zin na    yīs 'ī    dza na gū    'ī ts'ag ga  
      yīs 'ī    tsis ka gū    yīs 'ī    tū tēu gū    yīs 'ī    ta na kəs sī  
 25 cī kaj jī    yīs 'ī    ts'a ga    k'ī yī dji    yīs 'ī    tēa gūz za ga  
      k'ī yī dji    yīs 'ī    gū ts'i    gū cī ca tī    yīs 'īn na    ka wa  
      gū da dlic cī    yīs 'ī    gū ts'i    tē'a t'ag ga    yīs 'ī

<sup>2</sup> The suffix -tī is used of primitive objects and native animals to distinguish them from newly introduced ones.

## STONE ARROWHEADS

Arrows they made. Then iron was not. Stone arrowpoint they made. Stone with sharp they made. Stone oval tied on its handle he holds then bones he pounds up.

## WHAT EAGLE-RIBS SAW AT EDMONTON

There Edmonton cattle spotted I saw. There buffalo I saw. There afterward houses I saw. There east houses I saw again. East houses I saw again. Again after that Cree they fought I knew about it. Hunting wood corral afterward I knew about. Musket very well I knew. Cloth well I saw. I have sense. There horses good I saw. Over there far away there large gun I saw. The same place boat I saw. Over there white man chief I saw. Flag I saw. Wagon I saw. Indians another tribe I saw. (Name of tribe) I saw. White man priest I saw. Money I saw. Indians from there I saw. Cree from there I saw. His hair in the middle parted there I saw. Nez Percé tribe I saw. Long ago old men I saw. Long ago old women I saw. Long ago young women I saw. Long ago white women I saw. Long ago donkey I saw. Long ago rattlesnake I saw. Long ago birds I saw. Long ago wolves I saw. Rivers I saw. Lakes I saw. Boat flat I saw. Scalp shirt I saw. Weasel shirt I saw. There I have sense. I have seen. Tent painted I saw. There sun I saw.



## MEDICINE BUNDLE RITUALS

## ORIGIN OF THE BEAVER BUNDLE

- ka wa      gū ts'i      ka t'i ne      ta nīs da la      dī za he'  
 dīs L'al la      xa nī      yī 'ī      'īs Lī      da gīs L'ū la      'ī wa t'i gī  
 xa nī 'ī      'ī nīL t'ū      yī zīL gī      'ī wa      'īs Lī      yī ga  
 na gīs sūt      'ī wa t'i gī      dāg gī gīs L'ū'      'ī wa t'i      xa nī 'ī  
 5 nās 'aL      'a līn ne 'ī      gwa dī gī la      'ī wa      gūs tī ga  
 min nas gā'      tū teū la'      tū ta ka gū      na dī nī gī la la  
 tea dīs dī      ta za ts'it      'ī gūs t'i ga      min na da      dzil lāg ga  
 na k'ūs      tsit L'a      ta gīs tīL      nas gū wīs sī      'īs na sit da  
 ta gī dī      'a ts'i nī dza  
 10 min nig ga      'an na      tas Lān nī      'a La gī t'i      ma ga nī dza  
 mī da'      dī nīs djāc cī      xa gī 'a'      tas Lān ne 'ī      dī nī  
 dī na'      'ī ts'i      gū dīc naj      La      dī na gīs La      'ī t'a ka  
 sī na nī dī dī      'īs nīl la      La      yū wū'      tē'a      sī nāg ga dīL gā  
 dī na gīs La'      'a kū      'īL nī      na kal La'      tē'a      tē'a' 'ī ts'ag ga 'ī  
 15 tas Lān nī      ma L'a      dīs ts'i      dī nī      tē'a 'ī      gū dīc naj  
 La      māt dī      'īs dū ts'i      dī ya      'īs tē'i dza ga      mī ts'i  
 na ka nī ca      'īL nī      tē'a 'ī      dī      tē'a 'ī      La t'a'  
 ta gīs djāc la      'īs tēiz gū      mī ts'i      na ka nī ca      t'i gī  
 'ī t'a ka      nī ts'i      sīt dīs dlā 'a'      mī tē'an      nī ya      tē'a 'ī  
 20 'an nī  
 'ī wa      tas Lān ne'      'īs t'a      gū dīc naj      La      ma ga  
 sī gīs tal 'ī gūL      dū tē'a dī t'a 'a t'a'      'as sīs nī      sīn nī      zā'  
 tē'at dī nīs t'a 'a t'a'      La      sīL tī dī nī na      gū wa      sī gīs tēL i gūL  
 La      sīL tī dī nī na da      sī Lī gīs sa      'a gīs 'īn ne da      La t'a  
 25 dī na      'ī līn na'      sī Lī gīs sa      dū      gū wa      nīs 'a ha t'a  
 tas Lān ne 'ī      'īs nī      dī na'ī      tē'a      has nīl la      La      dī nī'  
 dī na la'      sī nī ga 'ī      'as tēiz      'ī wa t'i gī      tē'a 'ī      'ā  
 gīs nī      tē'a 'ī      dīs nī tī      līl la      nīs t'an na      dīs dal  
 dzan na da      da nī 'ī      nī dū wa      tē'a' 'ī      na gī dī la  
 30 Lī gīs 'ī      t'a sī 'an nī      tū mīL      tēi tē'a      dī ts'in ne'  
 ts'ā sī t'a ga      ma ga da      gīL L'ū'      'ī wa      La      tas Lān ne 'ī  
 'an nī      dī gī      sīt tū mīL La      'īs dū dī gū t'in na      ga gī 'aL i gūL  
 'ī dū gū      tēū t'in na      zā'      'a gīs 'ī gū la      tē'a dī t'a  
 nī dū wa 'a      sīt tū mīL La      zā'      'a tē'a dī t'a 'a

## MEDICINE BUNDLE RITUALS

## ORIGIN OF THE BEAVER BUNDLE

Camp from it man mounted a horse. He hunt he rode. Buffalo he saw. Horse he tied. Then buffalo he shot. He killed it. And horse to it he led. Then he tied the horse. Then buffalo he cut open. The meat he arranged. Then just beside him a lake was. On the shore he had spread the meat. It was hot. Noon just above him in the sky cloud small floated. With his head down he was eating then he looked up.

His food around water serpent lay in a circle. Its forehead its horn blue stuck up. Water serpent this man to him he spoke, "My son, may I live. Why are you afraid of me?" he said. "My son, yonder thunder is thinking about me. May I live." Thus he said. It came down, thunder. Thunder birds water serpent around him sat. This thunder spoke, "My son, from him some other way go. That I might eat him to him I came down," he said, thunder. These thunders all were blue. "That I might eat to it I came down. Then on that account to you it ran. From it go away," thunder said.

Then water serpent in turn spoke, "My son, to him do not give me. He is not holy. I say I only am holy. My son, help me. To him do not give me. My son, if you help me, my bag you may have. All people who may be my bag not to them I have given." Water-serpent spoke. This thunder he told, "My son, this you save my food you may eat. Then thunder, "Yes," said. Thunder made a noise with up they went. Already food was gone. The thunder took it up.

The bag was in bottle small hard crow feathers over it tied. Then "My son," water serpent said, "this my bottle other tribe do not give. Other Sarsi only I let-

'is dū dī gū t'in na    sī tū mīL La    ga nī 'a la da    tsū t'in na  
 nī dū wa    gwa gū na ha t'a    'ī gī    Lī gīs    sīt tū mīL La  
 mīt t'a    sa 'an na 'a'    na mī yī    djū    mī t'a 'a    'ī ts'ag ga  
 La t'a    te'as ts'it tī    mī t'a 'a t'a'    mīL    te'ī djin ne  
 5 xal teū    dī djī    mī t'a t'a    La    'a ka tein na  
 'a na ts'ī dī lātē cī    mī t'a    'a ka tein na    'a dī la    t'ī gī  
 ts'ī dān na ka    teī te'a    ka    min nas gā    na gī 'a  
 gwa nīs 'ic    xa zī nī gō wa    t'ī gī    xa te'is te'ūlte    'ī wa t'ī gī  
 ts'ī t'ūt

*Planting Tobacco*

10 ha gū te'ī dīL k'atē    'ī wa t'ī gī    ts'it dān na ka    teī te'a  
 gū k'a    tū nī 'iz na    'a ka na ha cī gīs nātē    'ī wa t'ī    'ī teī  
 tas teī teī    ī Līl la    ma ga    kō te'ī dīē dī    kū ts'it dī  
 tō wāL 'aL 'in na    na gī dī djite    sī ne gī nī zin na    'a dī na  
 djū    na djie    lān na    'is t'a    'is dū na    yī nī zī na  
 15 na te'ite ka    mī k'a    ts'ī gī yī zit    t'ī gī    La māt dī  
 tī te'ī nātē    sīt dān na ka ka 'ī    gī ka ts'a    'ī dū wūt  
 'ī ta    nī da sī    'at t'a    dī    'a na ts'ī dī lātē teī    da  
 dī gī    'a ts'ī dī la    gwa gū nī lī    xa gī dal    gwa gū nī lī  
 xa gī dal    gwa gū nī lī    La t'a    dī na    nān nī t'ūt    dī na  
 20 La t'a na    xa gī na    'a t'ī gō wa    'a kō

JACKRABBIT GIVES MEDICINE FOR SWIFT HORSES

mī da    wū sis sa t'a    mī ta    'ī L'a tsī yīs t'a    dī lī tēa ka  
 ka ma dī wūt    'a t'ī gī    gū gā    tcis k'a    sīt da la    tcūs L'a  
 La sī nīs tsīL    'ī dī gā    na gī nīL tī    sis ka ka 'a ts'ag ga  
 yī teī teī    yī nīz zin la    'a kū nāl ts'ī<sup>3</sup>    na dīs dja    'ī teij gū  
 25 tcūs L'a 'ī    ta gīL tēL    mī k'a sī    gū za ts'īL    'aL t'as sī ya  
 na zī    nī L'a tī ga teū    mī k'ai ya    kit da    'a tein nīs tīl la  
 'a t'ī gī    'a tein nīs tin ne    yī k'a    na zīl la    'is ka nī dāl La  
 Lī gī dīs cat teī    'a t'ī gī    'is ka nī dāl 'ī    ha lī tsa 'ī  
 k'as dīn na    yī tsī'    'a dī gī nāl La    ta t'a cī Līl la    dī nīl la  
 30 dū    yī ga    na gī nāl La    dī nī    'ī ts'ag ga 'ī    dīs djin  
 k'a nī djin dī    gū dīē nāj la    La    k'ī gī ts'ī    na nī ya  
 'ic teiz    mī ts'ī    'is daz dja    La    mī k'a    tcis te'it dī  
 da nī    'is teūt da 'a'    sa ga    nīL ta    'is teij    yī na gīL 'in

<sup>3</sup> This time of day.

own it. Holy nothing is, my bottle only is holy. Other-tribe my bottle if you give Sarsi none will become. This bag my bottle inside it lies. Otter too is in it. Birds all different kinds are in it. With it they sing large-rattles four are inside. My son, tobacco seeds inside. Tobacco you sow then boys small mocassins beside it stand up make." Autumn then they pull it up. Then they smoke it.

### *Planting Tobacco*

They burn off the grass. Then boys small over it who tread it down run back and forth. Then sticks pointed with for it where they make holes they put in-seed. The owners they sow. Who wish to those too sow. Others in turn other persons who wish to sow it. On it they put the dirt then away they move the camp. Boys' mocassins their spirits drive away.

"Father from you it is this that is planted. Here this may it grow. Happily may it grow. Happily may-it grow. Happily all people may they smoke you. People all you look after." This is all thus.

### JACKRABBIT GIVES MEDICINE FOR SWIFT HORSES

His horn bent over his father early in the morning his horses drove away. Then beside on the hill he sat. Squirrel he killed. By himself he laid it down. "My-children's birds will eat it," he thought. This time he-went home to eat. The squirrel he was holding. Behind-him he heard something. He stopped. He stood. Jack-rabbit his legs between hid itself. Then where it hid-itself over it he stood. Hawk was chasing it. Then the hawk the old man nearly his head it touched. While flying it sang. Not from it he moved. This bird sang.

When he stopped singing he spoke. "My son, from it move. I will eat it, to it it made me tired. My son, from it seven guns you will capture. To me give it.

- nī dza mī t'ag ga ʔi Lil la teis teit de da dū wa  
 mī tsī' k'i za da gī L'ū La t'a ʔi ts'ag ga ta sin ne zā  
 te'a din nis t'a 'a 'a ʔi gī mī tsī' k'iz za da gī L'ō nī gī ga  
 nil la
- 5 nī L'a tī ga teū ʔi ʔis t'a gū die naj La mī ga  
 sī gīL təl i gūL dū sa te'a tī t'a 'a 'a ma ga sī gīL təl i gūL  
 ha li tsa nī L'a tī ga teū na gis ʔi nī nit dza mī tea  
 i Lil la mī ts'i ga tas tsū wū mī tsī k'i za da gī L'ū la  
 sin nī t'a ga dī gī na ga nis La 'a 'a ma ga
- 10 sī gīL təl i gūL sī nī t'a ga teis te'it dī da nī  
 ʔiL teūt da 'a' dū sa te'a dī t'a 'a 'a La nī li tea ka  
 sa gī gil L'əl La 'a'
- dī ne ha li tsa ʔi nī L'a tī ga teū ʔi i Lil la tī dī na  
 ʔi wa ʔi ts'ag ga ʔi djū ʔiL tī dī nal la dī nī dī nəl la
- 15 dī teūs L'a zā nī teiz ʔis nil la ʔi wa t'i gī teūs L'a ʔi  
 na dis til la ʔis dū ts'i i Lil la dis t'ai 'a t'i gī  
 ha li tsa ʔi nī L'a dī ga teū ʔi ʔin na kū gī yis til la gūt dī  
 na dis dja la ha li tsa ʔi mī li tea ka tī ga ha cac nal Lī  
 din nī te'a dī t'a tī gwa 'at dja la

## WHITE GOOSE GIVES MEDICINE FOR HORSES

- 20 La dī ha li tsa Lī t'i gī ʔi dis ka ka 'a ga tsiz  
 'a ga dī yəl la teiz 'as t'a hī tū teū ga k'a nī ta  
 yī ga na gī yəl la yī ts'i dis dūz yī ga na gī dūz  
 teiz gū t'in na' ta sī 'a te'at dī nīj gūs t'i ga 'a t'i gī  
 La din nis ta la
- 25 yū wū ga tsit La la yī ts'i gū die naj La ʔi t'a ka  
 dū gī ma ga nī t'a gī mī te'at dī nī nī dji La  
 ʔi gī sī nī lit tea ka na nīL ʔin na na gū nəl ʔin ne  
 nī dza La t'a gī dīl gāi la gī mī ts'i ga dīL kəc ta zī k'a  
 na zī dī ʔi Lī gī sī mū wūs wūs sī dīL kəc mī gā
- 30 nī na gī zī dī mū kūs k'a dīl gāi ye teū ga tsit La ʔi  
 ʔan nī dī yī ka 'a kī yī ka zā tī ga gal Ləl La 'a  
 La na ga gū nan nīL ʔi gū na gīL ʔi nī nī dza kā wa  
 gū nis djan na gū dīl gāi 'a teit L'a ts'ā ʔis Lī tea  
 dīl gāi ye da gīt L'ū ʔi wa nī li tea ka ga 'a ʔi wa nī nī
- 35 na ga 'a gū dja na ga gū dət dlic gū la gūL ʔi wa

\* When used of people means tribe or nation.

I will eat it." He looked then its feathers with seven arrowpoints side of its head were tied. "All birds I only I am holy." That side of its head was tied to him it gave.

Jackrabbit in turn spoke. "My son, to him do not give me. It is not so holy as I. To it do not give me." Old man jackrabbit he looked at then its tail with its ears painted yellow side of its head were tied. "I too these to you I will give. To it do not give me. I too seven guns you will capture. He is not so holy as I. My son, your horses will run like me."

This old man jackrabbit with he helped. And bird too he helped. "This you save this squirrel only you may eat," he said. Then the squirrel he took. Another way with it he flew. Then the old man jackrabbit hole he put in. From it he went home. Old man his horses very ran fast. This holy became.

#### WHITE GOOSE GIVES MEDICINE FOR HORSES

Another time old man the same his children for ducks for them he went. Ducks different kinds at a lake he found. To them he came. Toward them he crept. To them he crept up. Ducks many among them he aimed just as then he fell asleep.

Yonder white goose to him spoke. "My son, why not them you pity. At them you aimed. My son, here your horses look at." He looked at them then all were white. Their ears were black. In the middle the one stood left its leg front was black. Beside it another stood its mane white large. The goose said, "These two horses only very run fast. My son, your-tipi look at." He looked then tipi high was white. Opposite the door outside horse tail white was tied. "And your horses' tipi and you your tipi it is. Your-tipi is not painted. And do not paint yourself. Your-

ta dī gī ts'ī gū la gūL      nī ts'ī da      zā'      Laz      ʕīL tas dlaz  
 ʕī wa      nī djon na ʕa      ʕa kū      xa mī k'a na      gū te'ī nite  
 ʕa t'ī gī kō wa

## BUFFALO BULL GIVES A SHIELD

ʕa kin na      ʕis ga kū wa      ta gī nis da      ʕis Lək ka      k'a  
 5 ta gin nis da      ʕīL k'ai ye      Lī ka zā'      zā dī dą ga      nī Lā  
 gī gī dīs sa nī      yū wū      ʕis Lī      tī gil L'əl ʕī      k'a      ta sī da  
 dī dą ga      ʕīL k'ai ye ga      ts'ī gil L'əl Lī      ʕīL k'ai ye      ts'ī dī wūc  
 ʕis kī ya ʕī      ʕīL k'ai ye      yī dīs sa      te'ī gī dī gil L'a  
 ha Lī gī dī cətc tea      ʕis Lī ʕī      ʕis da dja      ʕis kī ya      na teī gil L'a  
 10 ʕa t'ī gī      ʕīL k'ai ye      ʕis Lī ʕī      te'a nīL te'ūL      ʕis Lī ʕī  
 ta sit ts'a      ʕa t'ī gī      ma ga zin na na<sup>5</sup>      kū ts'ī gil L'a  
 ʕīL k'ai ye ʕī      ʕin na ʕī      ʕaL k'a gū nīL dī      gūL nət dīL ts'it dī  
 ʕaL da na gū dī      ʕī wa      ta gū      xa gū lai gī nīL k'a      mū wūs  
 gī t'ī      na gū nīL te'ūL      k'a na gū nis kai ye      yī k'a  
 15 gū dīL te'ūL      yī na da      na zit dī LīL la      xa ta la      yīs tin na  
 gī ts'a ga na      k'a      ʕī līz  
 ʕīL k'ai ye ʕī      ha nīL la      La      da nīL tin na dīn nis na  
 ʕas tsa      nī ts'ī      ʕiz za ga dī sis sit      sī ga      k'as dīn na  
 sa ga      zī sis gin na ka la      sin nən nis ʕin na na      ʕin na gil ʕin  
 20 mī da ga      nis kan ne      tās dja cī      da ga dīt tā      La  
 dī      nis ka ne      dū dīn na      ga nis tī ha ʕa      nin ne      da      na ga  
 nis tī      dī dji      da nī      ʕīL teū da ʕa      ha kī dji nī tea wū'  
 ʕən nī na ha ʕa      nī na nī dja dī      nīs ka nī ʕī      ʕal la  
 ʕət Lī ts'ī dāl dī      dī dji      da nī      ʕīL teūt      ʕī wa  
 25 ha kī dji nī tea wū      ʕət dja

## OWL SKIN WAR MEDICINE

dij na      ʕis ga ka      ʕa gī nī la      ʕa t'ī gī      ta nas tsai  
 Las tsū      ī LīL la      ʕī wa t'ī gī      mī dīt dlīc ca      gū ga na k'a sī  
 ʕī wa      gū wūs k'a sī      t'as      ʕī LīL la      tas teij      k'a na dī nī dī cī  
 t'ī gī      ʕī wa t'ī gī      kū<sup>6</sup> na da      yī dīL dīc      ʕī wa t'ī gī      t'as  
 30 mī ts'ī      dīs k'an      xa gī la gī      na L'a yī ga      gīL t'ī      t'ī gī  
 ts'a tea      na ga      gī nī la ʕī      da nī      dī dji      dī dī t'a nī  
 dī gī      mī t'a      ts'ī gī la      mī sī      k'a dī ts'in nī ga

<sup>5</sup> In compounds na, but when alone ʕin na, as in the next line, is used for the underground den of an animal.

blanket only white clay make white with. Then you-will be old." Thus the story they tell. This is all.

#### BUFFALO BULL GIVES A SHIELD

Two young men rode. Horses on they rode. Bull one only calves many they chased. That one horse good runner on he rode. Calf beside bull was running. The bull was lowing. The young man bull chased. He ran in front. While he chased it the horse got tired. Young man jumped off. Then the bull the horse tore open. The horse died. Then wolf's hole he crawled in. The bull the hole tore open. When he came at it again he tore it open again. Then three times he tore it open. His leg he saw. He tore the ground again. He gored it again. On him he tore it off. Above him while standing on his back he was lying. His chest on he urinated.

The bull said, "My son, I will help you. At first at you. I was angry. My son, nearly by me because I killed you look at me." He looked. On his horns shield painted blue was hanging. "My son, this shield nobody I have given. You now to you I will give it. Four guns you will capture. Great chief you will become." When he came back the shield he made. When they were fighting four guns he took. Then great chief he became.

#### OWL SKIN WAR MEDICINE

Four young men she gave it. Then she painted us yellow with. Then its painting along the arms and along the legs gunpowder with she painted. When she finished painting us then then above fire she shook it. Then gunpowder from it burned. When she had done that across the breast she put it. Then old woman to us she gave it. Guns four bullets these in it she put. Owl whole skin she wore. Near she sat. Then guns



tsin nəl t'i gūs tea na nīs da ʔi wa t'i gi da nī dī dji  
 ʔi līl la mī ga t'ū dī dī t'ən nī ʔi mī ka na gī kī  
 dū ma xa gi nī ts'it dī t'ən nī ʔi ha t'a ts'i nīs k'a cī djaj  
 na hī ts'īl t'ūl la da mī te'a nal dzū gū la gūl dī na  
 5 sī nīs t'i gi ma ga nīs lən na yū wa wū sa dza na dī na  
 gī lī gū la gī gī nī dīl ka da dū dī na gīs tsī gū la ʔa tī gī da ʔi  
 gūl teūz gū la dī gī nī t'ū dī na gwa gū nī la dī na  
 gī lī gū la gī ma lin na nīl tīs gū la  
 ʔi ts'əg ga mī tsa na tī ga nī nī ʔi yən nī lī gū la  
 10 ka nī dal da sī na nī nī

## SQUIRREL, A WAR MEDICINE

ha lī tsa ʔi ga ʔi dī la da da nī ʔīl teū da ta ʔi wa  
 la nī cī na ka t'ū na ga sīl ga ʔa ʔi wa la gū tsis  
 nī lən nī dīl te'ū la ʔa ʔi wa la gū la ʔis lək ka  
 nī ʔi gū la ʔi wa la ha kī teī ʔən nīn na ha t'a ʔi wa  
 15 la dīn na nī ma teit djin na dū nī kī zīl ga ʔa ʔi wa  
 la dī ʔi dī dji t'i gi ʔi wa la as ka zū nī  
 ʔa gū t'in nī gūl dū nīl k'a nīl ta ʔa dī na nī lī zā'  
 gū la sa ʔi wa la nī djon na ʔa ʔat t'a dī nīs la ha t'a  
 ʔa t'i ga ga ʔən nīl dīs sī nī djon ʔa t'a ʔa t'i gi kō wa  
 20 ha gūl dī gī nī la  
 gī zīl gī nī t'i gi na gī nīl lū sa ga gī ta dī la t'a  
 ta sis teai ʔi ka ha lī tsī ha ʔi līl la l'i gī sī k'a sī  
 siz sa na ga ʔa teiz ma gū līn nī k'a sī sin na ga  
 ha gī teiz ʔa kū ha t'a cīc teīc kū' na da yī dīc dīc cī  
 25 nī dza t'as mī tsī dīs k'an ha gī lai gī sa ga  
 gīn nīl tī ʔis lī mīn na gū ga nīs tī sa ga  
 gīn nīl tī dī gū ts'i ta dī gū t'a mī t'a səs ʔas ʔin nī  
 ta dī gū t'a mī t'a k'ən nīl ta kī gūs t'i ga na ga  
 gīn nīl tī mīl da sī da nī ʔi sis teūt mīl da sī nī cī na  
 30 zas gī mīl da sī ʔa kin na tsis dīs te'ūl mīl da sī  
 gū la ʔis lək ka ʔis teūt mīl da cī cīc dja mīl da sī  
 ha kī teī ʔis lī  
 hai yū hū dī dīl teūz ja mīl tī dī nī na gū la ha kī teī  
 ʔa gī na hai yū hū dīl teū ja ha lī tsa na hī ʔi līl la  
 35 mīl tī dī nī na gū la dza na dī na ʔi līn nī līl la

four with when they shot her bullets dropped from her. They did not penetrate her. Bullets just on the ground lay.

When one shoots you from him do not move away. This my medicine to them I give in the future long time persons will be. What they want they will not fail to get. Those things they will capture. Those who smoke this will be happy, persons they will live. Their flesh will be strong.

Bird her head you you be ashamed if you are lying you.

#### SQUIRREL, A WAR MEDICINE

The old man when he saw it, "My son, this time, guns you will capture. And, my son, Cree men you will kill. And, my son, scalps many you will take. And, my son, many times horses you will steal. And, my son, chief you will become. And, my son, people your enemies they will not kill you. And my son, this you will sing. And my son, even sickness although-it is about not on the ground you will lie. You will live only it will perhaps be. And, my son, you will be old as I am (?). Because of this I am saying it to you. You will be old." This is all it said to him.

When he killed it then he made it. To me when he gave it all over he painted me yellow. White man red paint with. Left side my mouth he painted horizontal. Right side my eyes he painted. This is the way he painted me. Fire over he shook it then powder from it burned. When he had done that to me he gave it. Horse for it to him I gave. To me when he gave it from that time thirty-five winters I had it. Thirty-five is ended just-then to you I give it. From it gun I captured. From it Cree I killed. From it two men scalps I took. From it many horses I captured. From it I became old. From it chief I became.

Oh, this squirrel help him. Chief he may become. Oh, squirrel he is old man when help him. Long time he lives then with that help him. Misfortunate without-

'a t'i gī Līl la    mīL tī dī na gū la    ma ta gū Lī    'a tēi gū ca gū  
 dī na lī gū la    hai yū hū    dīl tēūz ja    ha lī tsa    tsīl lin nī  
 ma ga    yī nin nī  
      hai yū hū    dī na tsīl la hī    Līl la    sīL tī dī nī na    nī cī na  
 5 dū cī gī tē'a gū    dī na gīs La    hai yū hū    dīl tēūz ja    sa ga  
      nī t'a    cī na dji na wa    gī mī Līl la    gwa gū nī lī    dī na gīs La

## SKY PERSON GIVES A MEDICINE

     ha lī tsa    sit til la    na k'ūs k'a    dī na    'ī līl la  
      ha lī tsa    'ī lī    mī tsa ga    dī gal    yī ts'i    na ka nī ya dī  
      has tin na    yī zīL gī    ha nīl la    La    dī gī    mī sī ka  
 10 na ga    nis La    mī ka tsin nis Lī ha ta    da    na ga    nis La  
      'is dū na    nī ts'i    gī nī ha la ta    'is Lək ka    gū zīL a  
      na ga    tsin nīl la ta    gū ga    gīl ləl    'ī wa    'a t'i gī na  
      'a mīL 'in na    tī    gwa na ha ta    sin na    nis t'a    na k'ūs k'a  
      dī na    'is Lī na t'a    nis tsī nī tēū wū    siz za t'a    La t'a  
 15 dī na    La ga ləl na    gī mī na gī tēi dī gūL    La t'a    sis ka ka 'a  
      'at da dī La 'a    'as sīL 'in na  
      mī sī kai yū ga    dī nī    ts'i ka    da    ma ga    yī nīl la  
      gwa gū nī lī    ts'a tēa    'ī lī gū la    yū wū    tū    da ma sī t'i gī  
      wū nas dīn na    Lī ka za    dī ka ha lī    kas tī    'ī wa  
 20 nī cī na ta    La ka za    kas tī    da    nī nī    nī kas tī  
      nīL ka sin nas hī    t'i gī    na zis sī ka ta    La t'a    'ī ts'ūg ga  
      na k'ūs k'a    dī na    sis ka ka    gī t'a    nīs k'a    dī na  
      ta dəs dīlī    t'i gī    na dīs tēite    na hī ga    na ta    sin na da  
      'in na ga    dīc cite    hai yū hū    gī mī səl tī    ta dəl dīlī hī  
 25 yū wū    na hī ta    ts'i    ta sit dī dīlīz    zā    tēa dī t'a 'a  
      wū na t'a    dza na gū    gwa gū nī lin nī    dū ha gū t'a    da  
      nīL k'a    gwa ta gū yī Lī    La t'a    da    nīL k'a  
      gū ma na dīs date    gū nəs 'ī    dū    nīL k'a    gwa na gū nī Lī  
      a na gū na ha 'a    'a t'i ga ga    ta dəl Lī    'ī Līl la    gī mī səs tī  
 30 da    ta dəl Lī    na hī ta    na hī Līl la    tī dī na 'a  
      'ī ta    nīL tsin    nī tēō wū    dī nī    ts'i ka    ma ga gū ta  
      mīL tī dī nin na    dī    mī sī kai yī ga    mī ts'i    tēa dī t'a gū la  
      ts'a tēai gī na    dī    na gīL 'in na    mī sī kai yī ga    gīn na hī  
      gū dja    na ha la    'is Lək ka    'a gū nī lī    'is La ga la    dji  
 35 tī ga    ma gū nī lī    mīL tī dī nī na

knowing may he live. Oh, squirrel, old man he being to him give.

Oh, being saved alive with help me. Cree never-shooting me may I be saved. Oh, squirrel me pity. My-relatives with them happily may I live.

#### SKY PERSON GIVES A MEDICINE

Old man was sleeping. On the sky person it was. Old man he was. His hair was white. To him when-he came while he slept he killed him. He said, "My son, this owl claws to you I will give. I have not wanted-to give it away, this time to you I give it. Some one-else from you if he buys it, horses clothes to you if he gives to him give it. And those persons will own it. Very it will be theirs. I am sky being I am. Big-wind my name is. All people who take away do not-be afraid of them. All my children they are. It is mighty. It is my own.

Owl's claws this woman now to her you are-giving happily old woman she will be. Yonder water surrounds the other side one white man I stay with. And among Cree one person I stay with. Now you I stay with. You call upon me then I will listen to you. All birds on the sky beings my children they are. On the earth beings you pray then I hear you. For you our father above me for you I tell him. Oh, keep on (?) you pray. That our father to praying only is holy. In the past long time it was happy. Not like that now on earth bad all now on earth I walk around I look-at. Not on earth happy it will be. That is why you pray with keep on. Now pray our father with-you I will help.

My father, wind great, this woman is poor. Help her. These owl's claws to her let them be holy. Old woman may she become. These your own owl's claws for them well she paid. Horses good, saddle too very good. Help her.

## PAT GRASSHOPPER RECEIVES MEDICINE FROM HAWKS

*A. First Narrative*

- kū zit da    'a ma 'i gū    ta za sit    lən nīs tei kī    lən na  
na gūs tin dī    teū t'in na    na gū gī tin dī    sin nī    gī mī ts'i  
dī cīc cət dī    sin na da    'a tca    'is ga nī dal    'i wa  
'i tsəl dīs ka sī    zil la ga    na gī dī na t'a la    dū gim mis teəl a  
5 sī ts'i    na ka gil la    sī ts'i    gū za sil a ga    'i na gīs 'i nī  
nī dza    gī mī gīs 'i    tsa    gī mī nī gī    na dīs sis 'a  
gī mī nīs tsil ləs sī    sī ka    ga ta gī dīl la    yū wū    sīt dī ka  
sil ləs sī    nīl t'a    gīs t'ail    ta gū    sī līl la    na gī dī teij  
mīl    dī dī tsī    nīl t'ək    gīl t'ai    gū sa tsī    dū gim mis tsa  
10 gwa gī tca    'a k'a    na gī cal    na gū tī na    ts'i    gū wa  
na dī cīc ca    gūs tī ga    sī k'a    gī dīl la    'is gən nī dal 'i  
ma ga    gū lī nī k'a sī    siz zəm mīl a    ga da dīc nīj    'i wa  
'as teəl dīl kəc cī    sū k'ūs ka da    ga da dīc nij    gū dīl ta  
a da tī  
15 'a t'i gī ko wa    ta sis tsa    gū za tsī    nīl t'a    sī kis til la  
nəs sī gīl dī gī sit dī    na gīs sīt dī    gwa tei gū nī ca    dzən na  
gū te'a kī nīt tsa    nī na gū cīc dja    nī na cīc dja    na gī dīs tī cī  
nī dza    'a k'a    sim ma ga    lī gī dī t'ac la    na gū tī na  
'i ts'i    dī cīc ca    'a t'i gī na    'i gū lī    gī mī nəl 'i  
20 gī nī tsa    k'as dī na    sī līl la    na ka na gī dī tsīt  
'a t'i gī ko wa    na dī gīs cət tī ha gū t'a    dī dīl    dīn nīs sī  
sai gī tan    gū za    sa ga    kwī yī ga    sis da  
gū lī    sī na da    gī dī nī    gī mī dīs teic    lū k'a    ka  
dī cīc ca dī    tū gī la    sin nas ga    lū k'a    sin nas ga  
25 na gīl hal    ha na gī la dī    lū k'a 'i    nī nən nīs tī    dī da tsa 'i  
gī ha da dīs tsī    sis tī dī    'i l'ī gī    gī mī gīs 'i    has sis gī nī  
nī tsī t'a    mīl    na nī tsīt dī    na ga    gī nī nī tī    'i t'a ka  
tsa    'i līl la    na hīn nī sal i    dū ha na la la    tī ga    mīl  
na tsīt tsīt dī    na ga    yī gī nīl a

*B. Second Narrative*

- 30 sī ka gī dīl la tī    nī na gīs sīt dī    ta sis tsa    sī ga  
gin nīs da    nī teū wū    'i ts'ag ga    ha sil nī    dī gī  
sī ka ga na    'ən nīl 'i    ma ga yī na gū la    yū wū    dza na  
dī na nī lī gū la    ha lit tsa    'ən nī na ha 'a    dū ma t'a gū la 'a  
dī gī    na ga    nīs la    tī ga    tca dī t'a ta    mī da tsī

## PAT GRASSHOPPER RECEIVES MEDICINE FROM HAWKS

*A. First Narrative*

Before last summer noon fence some when they-  
 were working at Sarsi where they were working I to them  
 when I was going above me it was (a hawk) and (a hawk)  
 above me were flying around. I did not see them. To me  
 they came down. To me I heard them coming. I looked-  
 around then I saw them. Stone for them I picked up.  
 I threw at them. Over me they skimmed. Yonder west  
 upwards up they flew. Three times with me they came  
 when fourth time up they flew. Far I could not see-  
 them they became. Still I walked down. Those working  
 near them I was coming just as on me it lit, *ʕisgannidaL*.  
 To it right side my shoulder it put its claws in. Then  
*ʕastcaɫdiLkæcei* back of my neck he put its claws in. The-  
 blood flowed.

After that I was dead. Far up they took me. When-  
 they let me fall down; when I fell I did not know anything.  
 Long time afterwards I came to my senses. I got up.  
 I look around then still around me they were circling.  
 Those working to them I went. They too were looking-  
 at them. Among them nearly with me they came down.

After that I felt rather crazy. Four days with me (?)  
 all the time (?) my tipi inside I sat even above me  
 screaming I heard them. Fish for when I went I went-  
 in water beside me fish beside me it threw. When it-  
 came out fish when I brought back everybody saw  
 where it put its claws. While I slept at night I saw them.  
 They said to me, "Your body with it our strength to you  
 we give. Why stone with did you throw at us? If you-  
 had not done that very with strength to you we would-  
 have given."

*B. Second Narrative*

They picked me up. Where I fell, I fainted. By me  
 they sat. Big one bird said to me: "These my claws  
 you may have. Take care of them. Then long time you-  
 will live. Old man you will become. Not bad these  
 to you I give. Very they are holy. From them I am-

dī na 'is Lī na 'a sī nī gūL ī da nī ka da gīs Lī dū  
 gū dja na ga gī nīs nī dji nī tsī na tī ga ha ma gū Lī nī  
 k'a sī da gī L'ū gū la L'ī kī 'is ga nī dal 'ī 'is t'a  
 ha nī yū wū Lī ya na ga gī gī nī dji Lī t'ī gī  
 5 na hī gīL 'in na 'a 'ī gī na hīl la 'a dī da na ga  
 mī gī nīc nīc dī da t'a ts'in nīL k'a wū da  
 ma gū ca tea 'a 'ī wa tī ga dza na dī na nī līn na 'a  
 da t'a ma nīs da ta nī dū wa ha 'a dī gī La t'a  
 'aL t'a hī 'ī ts'ag ga sis ka ka 'a mī nāg ga dīs ka ta  
 10 dū dī nās tsī ta 'a wū sa gū nī nī ya gū la 'is ga nī dāL  
 sal t'an na sī gīL gāL ī gūL gī mī sī sis gī la da sī ka ga na  
 na ga nī na dīs La 'a 'ī ts'ag ga teū 'ī La k'a 'ī 'is t'a  
 ha nī sin nī djū sal t'an na sī sis gī da sī ka gān na  
 nin na dīs La 'a yū wa wū sa dī gī na ga nī ga 'ī  
 15 ma ga gī na gū la 'is dū na ha nīl la da ha gī la mīn na  
 na ga tsī gī gī nī 'a t'ī gī na ma ga gī nī la na wū sa  
 dzan na dī na gī lī na 'a gī mī nās 'ī gū la sa 'a t'ī gī kō wa  
 nī ts'ī k'a gū na naj

## A KNIFE, A WAR MEDICINE

'ī ta na gī nīs Lō na 'a yīL gū la sī t'ī gī 'is Lī  
 20 Lāk ka za mī na na tēi gīL nīc nī cī na ja tea dū  
 mī Līl la 'a ha tēi tēi nī La ta 'a La gū zā' nī cī na  
 jāt tea mī Līl la dī sis tsit mī tsis k'iz za dī sis tē'ūl  
 dij gū mī zī sis gūt gū nīs na is t'ī ga mīL dīs ma  
 dī gī sī mās sa 'a ka gū 'is Lāk ka mīL 'is tēūt  
 25 na dī sī dal dī 'is Lī mīL na cīs tēūt La dī na dī sis ma dī  
 'a kin na mīL na dī nīl sī 'a kī yī mās 'a t'a  
 Lī kiz za tsin nīs k'a na gīs cīc nīc 'is t'a na sis tī na ga  
 'ī ta na gī nīL Lū mīl la dī ka dī da sī gīL tēil lās sī  
 ta dī dī hī Līl la sa 'a gī na 'a da cīc tēi tēi t'ī gī  
 30 gū gūL 'ī 'ī Līl la sī nī gai  
 mīs t'ū tī 'ī Līl la ta dī dī gwa gū nī lī sī ga  
 wū sa dī na lī gū la sī nīs t'ī ga mī ga nī sis tī na 'a  
 dī gī ma ga gī nīs 'a  
 mīl la dī ka dī sa ga gī nī 'an na 'a 'a t'ī gī da sī  
 35 na nī sis lān na 'a  
 gwa gū nī lī dī na gīs La cī na dji na na gīs tsan

living. I although (?) now I am sorry for you. Not good to you gift (?). Your dancing hat right side tie it on." The other one hawk in turn said: "That my friend to you he gave the same we two own. Those are ours. These now to you I give this all on earth soon you will learn. And very long time you will live. Things I cannot do there is none. These all different-kinds birds are my children. The one I want I do not lose. In the future be wise. Hawk like me do not kill. If you kill them my claws from you I will take away." The large bird, the other one in his turn said: "I too like me if you kill my claws I will take away. In the future these you we give take care of. Another person if you give you may do it. For it to you he gives something. That person to him you give it in the future long time he will live. I will look at him. Here to you we finish talking."

#### A KNIFE, A WAR MEDICINE

My father made it. With he gives it then horse one for it they offer. Cree dead body not with it back (?) in vain he runs. Once only Cree dead body with it I ran up. One side of its scalp I tore. Four times his back I stabbed. Ten times with it I went to war. This my knife twice horses with I captured. When we went home horse with it I captured again. Another time when I went to war two men with it we killed. Two knives used to be. One on the ground I offered bad because I dreamed. My father made it. Bear from with it toward sky praying to me he gave it. He painted me then the knife with he threw at me.

Pipe with he prayed. "Happily my son in the future may he live. By myself of it I dreamed this to him I give."

Bear to me he gave it. That from I made it.

"Happily may I live. My relatives may I see again."



## WEASEL GIVES A WAR MEDICINE

- gín nī ga      na gī nīL Lū      sin nis      lī dī L'ac dī      ga ʼí  
 ʼí wa t'í gī      ta sit tsa      dī nī      gī nī ga      tsa kū sig ga ʼí  
 ha nī la      la      da nī      ʼí līl la      dī ha gū yī sa  
 nī tsīL t'ūL la da      ha gīL la da      nī kī gī tea      zā      ha dī kat da ʼa  
 5 nī nī      nī lin na      dū ha dī ka da ʼa      nī na nī yāt dī      ʼa gī la  
 dīs ma dī      sa ga      yīs ta      ha sis nī      na ga      nis ta  
 nī ts'ī gūs tin na      gū gū na tēi tsī      dī ya      dī ʼan nīL ʼí  
 nī lī tea      min na      sa ga      nīL ta  
          sis la sa ka      la t'a      yī dū wa      sin nī      zā      ʼa k'a  
 10 gīs na      sa ga      tēiL ta dī      la t'a      ka t'ū na ga      kū gī dal  
 tēin nāl ʼí      sī nī      gin na ga      ʼí līl la      ʼa tēit L'a      sa da  
 ʼí da tēi nī cūL      ʼí t'í gī      cī tea na      zā      dī nī      gī na ga  
 ta sīs tsū      sa ga nī tsa      la da      mīL      gwa tsīs L'ū  
 sī gā na k'a sī      nī kək ka      ta tēis tēiz      ʼí ka ha lī      tsa ha  
 15 ʼí līl la      sīs zām mīL a      ʼa ka t'a      mī na      sa ga ta ka k'a  
 yī nāg ga      k'a      ta na dīL sit dī      dī ka sit da      sa ga nī ka  
 tea tāg ga      dī ka sit da  
          mī na sa      nī sis da      na tsin nāl ʼí      ma na dī nī tēū dī  
 dī za ka      gī teaz      yī ʼaL      ʼí wa      nāl ʼí      ʼíL nī      la t'a  
 20 na tsin nāl ʼí      dī gī      tsū i gūL      sil la      ʼis tēū      dī za ka  
 gū ts'ī      sī la L'ak ka      na gī gīs kəs      dī dīL t'ān nī      ta gīs sil la  
 sil la      ʼa la nī gīs tēū      ha sis nī      dīL na      siz za ka  
 gī yī ʼan nī      tēi tēi      dīs na      gī mī sis t'ī gī gūL      ʼí dīn nī  
 zā      na gī dīL nī      yī gīn na      ʼíL dīL gīn      k'a nī dī nī  
 25 ha sis ne      na ma tēit dīn na      ʼas ka      dī ha gū gīs sa      da nī  
 nī ts'ī      dū xa la t'a ʼa      ha gīL la da      dū      nīL lin nī  
 ha dī ka ta ʼa      ha ta nī dīon na ʼa      sīL nī      ʼa t'í gī      gī nī ga  
 ʼa la nī      lai ya ka      ka tsīs ga      sin nī      zā      da cīc dja  
          ʼí gīs ʼin nī gū      ha dī nī ʼí      gū ha nī nis ta      dī nī      gī dīon  
 30 (Repeated as follows: yū wū      nī gīs ʼin nī      ʼí wa      da      gū ga  
          nin nis ta      dī nī      gī dīon)  
          gin na      ʼa dī nī ʼí      ʼa t'í gī      da gīs L'ū

## WEASEL GIVES A WAR MEDICINE

My older brother made it. Daytime when he was-riding around he saw it. Then he fainted. This my-brother weasel said, "My son, gun with short distance if he is shooting if it comes out your coat only it will enter. Your flesh it will not enter." When he-came back he made it. When I was going to war to me he gave it. He said to me, "To you I will give it. I do-not want to lose you. Dreadful place you are going. This you may have. Your horse for it to me give."

My friends all are not. I only still I live. To me when he gave it all men came in. They looked on. I my brother with him back of fire we sat. I took off my-clothes then my breech cloth only this my brother painted me yellow. My front hair in the middle (?) with it he tied it. Along my arm its tracks he painted red. White man's paint with my shoulders both its holes, on my chest moon still when it is new he painted. On my back sun he painted.

In front of him I sat. They were looking at us. (A grass) in his mouth he put. He chewed it. Then, "Look," he said. All looked at us. "This do not let go." My-hands he held. His mouth from my palm he threw bullet. It was hot. My hands he held together. He-told me, "Swallow it." My mouth when I put it in vain I tried to swallow, although I tried. He himself only could swallow it. Its song he sang. When he finished-singing he said to me, "Your enemy even short distance gun at you will not wound you. If it shoots not your-flesh it will enter. You will become old," he said to me. Then my brother said truly. My friends are all killed. I only I am old.

As when I first saw you you told me I will give you-away. This person will be old.

That place I saw you then now to him I will give-you away. This person will be old.

My brother, where you said there, I will tie it.

## ROCK GIVES A WAR MEDICINE

tū teū ga tsa teū ka yī ga tɕəz zī lī ʔal la dī yī ga  
 nət tac dī dji djin nis sī yī ga yit ta tū dū tən nī  
 dū tei tei ʔi līl la ta gī zit tsa ʔi ha nil la la  
 na gas t'a dī t'a ka sī ga nən nī ta tei ʔis kī ya ʔi  
 5 ha nil la ʔi ta' ha lī tsa ʔa tein na sa ga gin nin nī  
 ha kī tei ʔa tsin na sa ga gī nin nī ʔa t'i gī ʔa kī  
 ʔa ka nī ga na tətɕ tɕa ʔi ha nil la gū nī ya la  
 ha lī tsa ʔən nī na ha ʔa ha kī tei ʔən nī na ha ʔa  
 teis teit dī da nī ʔil teūt la sil lin na ʔən nīl ʔin na  
 10 la sin na ʔa sī zī tsa ta gal gai dī dī t'ən nī nī ka  
 na ka gū la na gas t'a sī ga na nī ta cī  
 tsa ʔən nī ʔi ka sī ha dja ha kī tei nī tɕa wa  
 ʔa dja ha lī tsa ʔa dja teis teit dī da nī ʔil teūt  
 sis t'ū t'i gī dī dī t'ən nī mī ka na ka

## A PAINTED TIPI

15 la ga dis tsī ʔi wa t'i gī sis zis gī lī kī za nī dzin nis ʔi  
 ta sis tsa la ʔi wa ka wa kū yī ga sis da la ʔa t'i gī  
 ka t'i nī ʔas sis nī na ga da da kō wa ʔi wa t'i gī sa ga  
 dis djin ʔi wa na gū dī kai la na gū sis dja la ʔis lī  
 mī ka ta sis da nī dū wa l a ʔis lī gal la sī sit da  
 20 sī kī gī tɕa sis la sī ka la t'a nī dū wa la

## FINDING A BUFFALO STONE

tsa xa nī k'a t'i ne mī ts'a yī ka ʔa kin na  
 ma ta nas din na ts'i da tsa ta sin na la gū kū ts'i dī ya  
 lī līl la kwa la' ʔi wa t'i ge te'i djin la mī nas ga  
 yī dis ts'ā la yī t'i gī te'i djin nī gū ts'i dī yal la tsa  
 25 xa nī na dī ʔā la dī tī gī la yī djin nī xa nī dī tei  
 xa nī nas ʔa ga ʔa ts'is ʔin nī dī te'i teiz dji nī dū wa la  
 dī nī ts'i ka nī na dja na gū dī gai xa nī ʔit dū wō'  
 kū dal lī yīs nī la xa nī gī dīl ʔis nī la ʔi wa t'i ge  
 tsa xa nī ʔi na nī ʔā la yī djin la xa nī kū yī dal la  
 30 nas ʔa ga ga i ta dī nis ts'is dī nī ts'i da tsa ta sin na ʔi  
 k'a t'in nī yī ga nīs da' ʔi wa t'i ge yī wū' ts'i ka

## ROCK GIVES A WAR MEDICINE

At a lake large rock beside it sweat-house when he-made beside it he slept. Four days by it he slept. Water he did not drink. He did not eat when he became thin. The stone said, "My son, I pity you. Why beside me do you sleep?" The young man said, "My father, old man being me give. Chief being me give. These two for them by you I sleep." The stone said, "You are wise, my son. Old man you will become. Chief you will become. Seven guns you will capture. My son, my flesh you may have. My son, it is I. My-name 'stone goes in the water.' Bullets from you will fall off. I pity you, beside me because you slept."

Stone what it said so it happened. Chief great he became. Old man he became. Seven guns he captured. One shot him then bullets from him fell off.

## A PAINTED TIPI

Evening (?). Then I was killed. One day I was-dead. Then tipi inside I was sitting. Then man told me your tipi this tipi. Then for me he sang. Then it was morning. I woke up. Horse on it I was-riding was gone, saddle, my blanket, my coat, my-leggings, my moccasins, all were gone.

## FINDING A BUFFALO STONE

Stone buffalo. Man his wives two. The opposite-side girl poor for wood she went. Dog with she-got it. Then some one singing close to her she heard. That place some one singing to it she went. Stone buffalo she picked up. It was this was singing. Buffalo wood buffalo corral where they made what they ate was none. This girl came back. "At dawn buffalo you drive they will go in," she said. "Buffalo are-coming," she said. Then stone buffalo she put down. She sang. Buffalo went in. Corral they filled. This girl poor man he married. Then that one girl

nī tēō wū ī mī L'a ga la dī da 'a t'ī gī gū ts'ī yī djin nī  
 t'ī gī xa nī kū di lte yī djin nī t'ī gī nī t'ī gī  
 gū ts'ī xa nī nī lā 'a gū dja 'a t'ī ge gū ts'ī xa nī  
 kū da l gwa gū dja yī gī ts'ī ka da sī tsa xa nī  
 5 yī gin na yī gin nī t'ī gī

## WILD PARSNIP GIVES A MEDICINE

ha li tsa gī dū wa sin nī ma gū nī ca nī ka ma k'a  
 lī dī dac cī cū L'a ta<sup>e</sup> nī yal la 'a t'ī gī na ts'iz zī  
 gwa 'ī la ha li tsa mī tsa ga dī gū ca ga na gū da tiz la  
 'ī gī cū L'a ta ha li tsa gwa dja gī la sin na 'a cū L'a  
 10 mī tis sa na gin na gī 'īn dī cū L'a gū nī na dī gī 'a la  
 la sa nī na ha 'a ha li tsa tēi tē'a gwa nī na ha 'a  
 cū L'a ha li tsa 'a dja xa na dūc ca 'a dja k gī t'ī gī  
 zā' yī dū wa

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<sup>e</sup> *Heracloum lanatum*. Michx.

elder her place she sat. Then after that she sang  
then buffalo used to go in, she sang. Then after that  
buffalo plentiful became. Then after that buffalo  
came in it became. That girl from her stone buffalo  
its song they sang.

#### WILD PARSNIP GIVES A MEDICINE

Old man has died, I I knew on the prairie he was-  
wandering in the wild parsnip he went in. Then one-  
standing he saw. Old man his hair very white he-  
was leaning on a cane. There among the wild parsnip  
old man he had become. "My son, it is I, Parsnip  
its cane." When he looked again parsnip like it stood-  
again. "My son, like me you will be. Old man small  
you will be." Parsnip old man he became. He was-  
crawling out when he became only he died.

## NARRATIVES

## TCAGUCAGGA, THE WISE SARSI

- yū wū dzan na ha li tsa t'e'a gū cag ga miz zī' la  
 gū nīs nan na mis ka ka La t'a ts'it don na' 'is t'an nī  
 gū ga La t'a 'al la k'as t'a ca tci ga da da gil L'ū'  
 'as nī ts'i gūs ts'ū wa 'a ga 'i ts'in na 'i tci da nī'  
 5 'a lal la yī ga cas tsī sīt L'a sīn na t'i gī gū' yī ga  
 'al lal la La t'a k'as 'i ka na gī gī 'at gū ga gī nī la  
 xa sa dal 'iL nil la 'is ga ka 'i xa gī gī dal Lī t'i gī  
 k'as Lai yī ga gīL t'i ha li tsa 'i 'i dī nī djū  
 dīL t'an na k'as t'a Lai gī gal tī ha li tsa 'i L'a ga na t'e'is t'e'i  
 10 gū nī ts'i na nī ya mis ka ka 'i gī gī nī ts'i xa na t'e'is tsis se  
 na gī nī dal la' ha li tsa 'i ha nil la 'a Lī sī dal La 'a  
 'i ts'a ha 'as ts'a sīL dīL ts'it sīn nī na hīs t'ū 'i wa  
 na nī dū na hīs t'e'a gū sa ga na gil lan na i tci da nī  
 i Lil la Las sī sī gal xal i 'i ts'a ha 'i 'i jil dji Lil la  
 15 'i wa 'i tci da nī i Lil la gīL dīs tsit yī ga na dīs La tī  
 gūs t'i ga yī ga na za na 'i dīs sī ha li tsa 'i ha gīs nil la  
 tin nī ya' dū 'at da dīn nī dla tī gī yal la nīs tīl la  
 'al ts'is dīn na gī gī Lil la gī dīL tsit da t'i gī gū wa das sī  
 Lī k'ū yī ga na ga nil t'ū  
 20 'as nit ts'i gūs ts'ū wa zā' k'a na zit ha li tsa 'i  
 yī ts'i gū nal la ha nil la sa gil gūn nī gūL sīn nī  
 djū nīs t'ū ha 'a' ts'it da 'i 'ā 'is nil la dī tci da nī  
 ta dī tan nī Lil la 'as k'a na dac yī yīL Lī Lil la 'i wa  
 gil dīL tsit yīs sī hī gūL ga ka gīL L'a i tci da nī i Lil la  
 25 na gil gīL 'i t'a ka dū ha lal la na hī sī hī gūL 'i t'a ka  
 ha li tsa ts'is dag ga da na t'e'a tī ha lal la ha li tsa  
 na gīs nal la 'as nī ts'i gūs ts'ū wa 'i la 'is tciūt dī Lil la  
 Lī gī dī cūj yī ga 'a nī t'i da tī gīL la ha kī tci nī tci wū'  
 'is nil la 'iL t'an nī gū wa xa nī gil la na da dal  
 30 'iL nī kū na gī gī da la La gī nil taz 'a t'i gī 'i L'ag gī  
 gī nil taz dī ta ta gī dī dī tsal la gī mī ta ha gī mīL nil la  
 ha t'a sas ts'it ts'i la ta dī das tsa gū

## NARRATIVES

## TCAGUCAGGA, THE WISE SARSI

Over there long ago old man Tcagūcagga was his name. Ten his children, all boys. Arrows for them all he made. Quivers tipi poles (?) he tied on. The youngest for him bone bow he made. For him bears-head small like a hat for him he made. All quivers when he untied to them he gave them. "Let us go out," he said. The young men went out then quivers they tied on. The old man himself too his arrows in quiver he tied on. The old man went toward he stood. His sons towards him east they stood. The old man spoke, "We are going to fight each other. The oldest first will attack me. I will shoot you. And you when I do not hit to me who runs up bow with he may club me down." The oldest shouting with and bow with attacked him. To him as he was coming just then his arm through he shot. The old man said to him, "Walk away. You are not strong." He walked away. He lay down. One after another with them when he fought then he hit them. Nine he shot.

The youngest only still stood. The old man to him spoke. He said, "You will not care for me. I too will shoot you." The boy, "Yes," said. His bow taking up with he walked back and forth while shooting. Then he attacked him. Although he shot him he ran to him. Bow with he clubbed him. "Why did you do that? Even if he was shooting at you, why old man like that when he shot you you do that?" Old man when he came to his senses the youngest his hands while he held he led him around. Of him he was proud. "This one great-chief," he said. Arrows for them he took out. "Let us go home," he said. They went in. They lay down. Then in the night when they were lying they were groaning. Their father said to them, "Why you have not boils do you groan?"



- 'a t'i gi      gū ts'i      t'e'as din na      nī cī na      i Lil la  
 na Lī gil diLtc      'as nī ts'i gūs ts'ū wa 'i      nī cī na      'is tēu di  
 t'i gi      tsil      i Lil la      zā'      La sī da gūs tsal      ha t'in nī  
 dza na      nī cī na      Las sī das tsal      ha nī da nī dza  
 5 'as nī ts'i gūs ts'ū wa 'i      gū tī gīs mai      gim mit ta      gī ma  
 zā      gīs da      'a t'i gi      nī cī na      gī mī k'ac gā'      dza na  
 tēi tēi      nī na gī dal La      'i wa t'i gi      gim mī ta      gim māk ka  
 dī ya      nī cī na ga      na gī yal la      ha li tsa      ha t'a nī t'i  
 'is ts'i nil la      sīs ka ka      'a ka      da ca 'a      has ts'in nil la  
 10 da      gūL dū wa ha      t'e'a gū cəg ga      mis ka ka      La t'a  
 ga gā      ha li tsa 'i      ha nil la      'ā      gwa gū nī lin na ka  
 'a gin nī La la      'a t'i gi      gū nis nən nī      nī cī na      yī ga la  
 mis ka ka      'a gī nī t'a'  
 na dis dja la      dī ts'ai ya ts'i      kū na gī dja      ha nil la  
 15 ts'a tea      na his ka ka      La t'a      ts'i gi gā'      'i wa      sī nī  
 gū nis nən na      nī cī na      yīs gā'      mī ts'ai ya 'i      ha nil la  
 ha li tsa      da 'i      zā      na ts'i zīs gā la      ha li tsa 'i      xa gī yal la  
 'i tēi ta      nī yal la      kū k'a      'a da gū la      La t'a      'i tēi ta  
 kū      nī da sil la      ga dī      kū na gī dja la      ha nil la      yū wū  
 20 da dil tsa dī      i tēi ta      na nī na'      dū na gī zīs ga 'a      'i wa  
 mī ts'ai ya      'a t'i gi      na nī na la      La t'a      nī cī na 'i  
 māk ka      ts'i dīs da la      ma ga      Lī      xas tīL la      ts'a 'ī la  
 mī 'i      L'ai yī k'a      tsit dīn nīL tsil la      'i L'ai gī dā      mī ts'i  
 sit dī dal la      'a t'i gi      'i L'ai gī      ha li tsa 'i      kū k'a  
 25 'a ta gū lai gī      kū      Lit ta dī gī lal la      La t'a      dī li tsa ka  
 da da gīs L'ū la      La t'a      i tēi 'i      'a kū nī dī      has da gū nal La  
 'a t'i gi      nī cī na 'i      ha nil la      ka wa      gū La      na da dāL  
 'is nil la      gī ma ga      tsaz tsit      lən nī sa      gī gī nī zin nī  
 'a t'i gi      La na      gī dīs yīz      'a t'i gi      'i L'a tsī      ha li tsa 'i  
 30 nī cī na      kū k'a      gū wa      na gī yal la      na dīs dja la  
 kū na gī ya      dī ts'a ya      has nil la      'ən nīL dīs sī da      nī cī na  
 La na      gīs zīs la      'a t'i gi      dī na gī li la      gū dja  
 Lī gī dī nəc  
 'at tsin nīL t'ən na 'i      'at dī      'is dū na      tcis tē'in na  
 35 sit dən na      nət dīt dīs dai      gī dī ma      t'i gi      nī na gī dal Lī  
 t'i gi      ka dal      gī gī nī ts'i      ka gū gī nīj      gī gī nī 'a ha ka  
 tēi tēi      gī gī nī 'aL La      'i ta'      'i dal t'ū      ts'i      da dāL  
 'is zī 'a git ta      'əl li nī      na na gāL LaL      'a t'i gi      na gī na

Then after that by themselves Cree with they went to fight. The youngest Cree when he caught then axe with only he knocked him down. He did that long time Cree he knocked down. After a while the youngest led the war party. Their father, their mother only stayed. Then Cree killed them. Long time not they were coming back. Then their father for them went. Cree-camp he came. "Old man, what do you want?" they asked. "My sons for them I came." They said, "Here near Tcagūcagga his sons all were killed." The old man said, "Yes, well you did to them." Then ten Cree he killed, his boys as many.

He went home. To his wife he went in. He said, "Old woman, our children all they have killed, but I ten Cree I killed." His wife said, "Old man this time only they will kill us." Old man went out. In the brush he went. Camp ground he fixed. All brush firewood he placed about. From it he went in. He said, "Yonder in the middle in the brush put the tipi. They will not kill us." Then his wife there moved the tipi. All the Cree for them came. His tipi smoke coming out they saw. This side of him where he could not see they stopped. At night to him they went. Then that night the old man fireplaces which he had made fires he lighted. All his dogs he tied up. All the trees were lighted up. He kept talking loud. Then the Cree said, "Tipis are many. Let us go home," they said. Of him they were afraid. There were many they thought. Then those they ran home. Then next-morning the old man Cree camp place to it he went. He went back. He went in. His wife he said to, "As I told you Cree those ran home." Then they were saved. Well they camped about.

Those who were killed after them others seven boys were born. They went to hunt. Then they came back then lies to him they told. They tried to fool him. In vain they tried to fool him. "Father we shoot to we are going. Where we kill meat we will put there then

ha li tsa ʔi ʔā ʔis nil la gĩ dis da la tsa tci ga  
 ʔi gĩ sɪl gĩ la ha li tsa ʔi məs ti zā ga na nax la  
 gũ lil tũ zā ʔi da la ʔat t'a gũ gũ yən na ka  
 hai gĩ nil la na hi ta has di nĩ məs ti ga ʔal li nĩ  
 5 na nal ga gũ lil tũ djũ ʔa t'i gĩ mĩ ga da nĩ gĩ nil la  
 nĩ na gĩ nĩ dal dī dī gĩ ta ʔin na ga gĩ dī gĩ nĩ ʔa lit t'a  
 gĩ gĩ nĩ gĩ ʔal ha li tsa ʔi ʔā ʔis nil la nĩ t'i gĩ na gis na  
 ʔi wa t'i gĩ na nĩ na ʔa li nĩ sil la ʔi ts'i ga na nax dī  
 da nĩ ʔi ga na gĩ gĩt da mĩs ka ka ʔi ha gĩ nil la da ʔat t'a  
 10 ha li tsa ʔi ha nil la ha t'a məs ti ha t'a dax nĩ i  
 gũ lil tũ ʔi ʔas da gũ dī L'ũ k'a tũ ʔal da nĩ  
 ʔa tsən nax da sɪ nĩ gax ʔai ʔis nĩ ʔi wa la t'a dī tci  
 gũ li gĩ dī gis sũz ha li tsa ʔi ha nil la la t'a ʔal lin nĩ  
 ʔi k'a i gũ li ʔal t'as ʔi wa la t'a k'a nit t'a  
 15 gĩ gĩ ga nis teũt la t'a ʔa gĩ nil t'a la t'a ʔis tci z  
 dī sɪ ʔi da na nax la  
 mĩ ga na gĩ sɪ nil la ʔa gĩ dī dī nax t'al i gũs t'i ga  
 mĩ k'a sa teũ ʔa gĩ nax has na ʔa dī ga na ta dī dīl nis  
 gĩ lil la ʔi ts'a ga t'ak ka dīs nĩ mĩs ka ka hai gĩ nil la  
 20 dũ ts'is na dī gwa t'i gĩ ʔi ts'ag ga t'a ka ts'it dī nil la  
 da nĩ ʔi ʔan nil t'a gĩ gũs t'i ga ʔis tcaz zĩ gũ gwa dī  
 na t'ai dzil lax sɪ dũ gĩ gis tsa kũ na nĩ t'ai ʔa t'i gĩ  
 dī nĩ zā gĩ gĩ zis ts'i sis ka ka ma ka na dī gax t'a dī  
 dī na dũ gas t'a gũ la sa

## FAMINE RELIEVED BY MAGIC

25 dza na gũ sin ne ʔi ta mĩ ta ʔa t'i gĩ t'a dī tā  
 ma ts'in na la mĩ ga tsit L'a mĩ tsa na ga zũ la dī ts'it da  
 ka gis dīa k'a nĩ t'at tsɪ li gĩ gic nic dī da ga ka tsit L'a  
 gũ sɪ t'a la' mĩ ga gax tsax dī dji djin nĩ sɪ ha gĩ la  
 mĩ ga gĩl na' dũ wūs k'a gĩl teũz dī t'an nĩ t'ag ga  
 30 il dũ wūs k'a nĩ t'az mũ wūs ʔi dzax zĩ wūs gwa dja  
 ts'i ka ga gĩ nĩ ta ʔas t'ax nil tsax gis nil la ʔi wa  
 ʔa ts'at tsɪ gĩl tsil mĩ ga ha gĩ ts'in nĩ ta gax na gũ dī tsɪ  
 gax dī nis da la t'a gĩ gĩ tcis gũ lax ma gĩ gĩ dīs ta  
 dũ ʔa gĩ gĩ nil tā ʔi wa t'i gĩ ma ga nai gĩ ts'in nĩ ta ts'it dī  
 35 gĩ k'a gĩl ka mũ wūs k'a na t'a ka na dī dīl ʔaz

we will move there." The old man, "Yes," he said. They went. Beside cottonwood they killed. "The old man willow only by he camps, slough water only he drinks. Let us see he is wise," they said. "Our father we will tell, 'Beside willow tree meat we put. Slough-water too there by it food,'" they said.

When they came back their father to him they said it. At last they fooled him. The old man "Yes," said. "Over there I will camp." Then he moved camp. Meat lies to it when they moved, to the food they came. His boys said, "This is the place." The old man said, "Where willow tree where you spoke of? Slough water where is it? This prairie water do you mean? At last (!) you fooled me," he said. Then all wood he put on the fire. The old man said, "All meat fat even cook." Then all was cooked. To him they gave it. All he ate. "All I will eat, I said. Here put it."

Beside him they put it. He had nearly eaten it then his neck large became. While he ate his arms he lifted with bird like he sang. His boys said, "Not you eat while bird like you sing." The food when he had eaten just then like a hawk from them he flew. To the sky where they could not see him he flew up. Then singing only they heard. "My children on account of it you acted foolishly people I will not pity."

#### FAMINE RELIEVED BY MAGIC

Long ago I my father his father then was holy. There was famine. His son small was hungry. His blanket foot skin he cut off. He put it in the fire. Calf's foot small it was cooked. His son ate it. Four days he did this. His son ate it. His leg he covered. Hawk feathers with his leg he cut off. His leg deer leg became. Woman to her he gave it. "Chop it in half," he said. Then she chopped it in half. His son she gave it. He ate the marrow. He had enough. All ate. They passed-it around. They did not eat all of it. Then to him they-gave it back. Blanket on it he put. His leg as before he put out again.

te'a t'in nī nī cī na gī dīs ts'a la la ka zā nī cī na  
 ha li tsa L'ū ga na ta la L'ū 'ī Lil la 'ī nīl t'ū  
 ma gū dīs dīa tī dī dji dzin nis sī gūs t'ī ga tai gīs wūts  
 dīs djaç gwa dja mī na' dji na ha gīl nil la 'ī t'a ka  
 5 dī nən nī la ha ka gim mī nīl tī ha nil la ts'ā kū tī ga  
 Lī da sūs kū' na dīl la tī Lil la 'ī dī dī dāt L'ic  
 xa gī ya Lī dī gī ya kū' mīl dīs nūc Lī ta gī gūl  
 nī dū wa gū ts'ī L'a tsən na gūs t'ī ga kū ta ta ka na cī dja  
 mī lin na 'ī ka na t'a dū ma gū dī la 'as da na dja  
 10 ma na gū dīs la dī dji djin nis sī ka wa dīj gū  
 Lī dī gī ya 'aL da na t'ite ma na gū dī djaç cī 'a t'ī gī ka wa  
 dū gū dja dī dīa dū gū ga yīl nī

gū dīs gal dī mīt ts'ai ya ha gīl nil la yū wū ha li tsa  
 mī ts'ī dī ca mī ga nīs ta gū dja 'a na nin na ha ka  
 15 ha nil la ha nī nas sī gī ts'ī kū gī yal la ha li tsa 'ī  
 ha nil la ha t'a nī dja gū ts'ī ka 'ī ha nil la nī ga  
 nis ta gū nī ts'ī dī cī ca 'ī L'a tsī sī ka la ts'ī na dīs dja  
 sī ka la gū dja na nī la ha li tsa 'ī 'ā 'īs nil la  
 ha li tsa 'ī 'īs Lī ma gū nī lin ne 'ī wa gū sīl la djū  
 20 gū ga nil la ha nil la da na dī dja nī ka la dī nəl la  
 nī nī ya dī mī ka la gū dja na dja la

dī nī ka t'in nī 'ī L'ai yī ka 'iz za ga dīs sit xa nī  
 'ai yī wa i Lil la i nīl t'ū 'ai yū wa gī tsa da ta ts'a  
 'īs nil la ha li tsa 'ī L'ū i Lil la dī na haL in nī gū dī nīte  
 25 ts'ən nəl dī xa nī ts'is sis gī dī 'īs ga kū wa haL nil la  
 'ai yū wa 'īs tēi dji k'a nəl gīs sa ga ha gī gī ləl la  
 'ai yū wa dīl nī k'ī mī tsa ga 'ī ts'in na gū mī tsa ga  
 ta gī nī kai 'a t'ī gī la tas ts'a ha li tsa 'ī ma ga  
 La t'a Lī gū ts'is sin la 'ī tēi ta mī L'ū wa i Lil la  
 30 'a na ts'it dīs xal

## BROKEN-KNIFE RELIEVES FAMINE

teū t'in na la miz zī mās mī kal tū nī ka gū dī dī yīs na la  
 ma tsin na 'a t'ī gīs sin na gū gīs Laj la kū tsī gī da la  
 ha nil la La t'a ha nəl dāl na hī da nī t'as sa da  
 'ī tēi t'a nī ca 'a t'ī gī gū ts'ī dī nī dji gū ka wa  
 35 gū mai ya teit dīs la 'ī wa sas t'ūt gū la yū wū

Doing wonders Cree heard about it. One Cree old man herb he dreamed about. Herb with he shot. He became sick. Four days then he became thin. Black he became. His relatives said to him, "Why do you not get well? Try your best (?)," they said. "Outside fire very make." Fire it was started when he painted himself. He went out. He went in the fire. Fire blazed with him. Smoke went up. He was not. Short time then fire he came out. His flesh was as before. He was not sick. As before he became. He was sick again. Four days after four times he went in the fire. He became same again. He was sick again. After that he did not doctor himself. He stopped.

When it was night his wife said to him, "That old-man to him I will go. By him I will lie. Well you will become." He said, "You may do that." To him she went in. The old man said, "What you come for?" The woman said, "By you I will lie to you I came. Tomorrow to my husband I will go back. My husband well make him." The old man "Yes," said. The old-man horse good and clothes too to her he gave. He said, "Now you go home. Your husband will get-well." When she came home her husband well was again.

This man secretly became angry. Buffalo marrow with he shot him. "Marrow when he eats he will die," he said. The old man herb with people he always does with. When they moved camp buffalo when they-killed young man he said to, "Marrow may I eat break off to me give it." Marrow when he swallowed his throat like a bone his throat stuck in. Then right-there he died, the old man. At him all laughed. In the-brush his herb with they threw him in.

#### BROKEN-KNIFE RELIEVES FAMINE

It was a Sarsi. His name knife-broken. He led the camp. There was famine. Then he invited them. They came in. He said, "All go out. Your guns load. Here in the-brush I will go. There from moose like camp from

- gū la gū      nī 'a dī      ka wa      'aL nit tsī      yī nīs t'ū na  
 sī zis ga      ha dja la tī      teiz zīL gī      mit tsis na      nat tsis 'aL  
 La t'a      ta na tsis La      mī tsīL na      mīl lin na      teī tea      zā  
 k'a tsin nī t'az      mis Lai a      'ī teī t'a      na gī nī 'aL la      gāt dī  
 5 ka na dī ya      gūs tī ga      gū k'a      ka na dī La La      kū na gī dī la la  
     La dī na Lī dī      na gū dī yis na      ga dji      ma tsin na la  
 na gū yis Laj      ha nil la      na tsa ga nī zū dī la      'ā      'is tsī nil la  
 'ī wa      'ai yī ga      na ga      'as La      ha tsit dīs tsī 'a      tsit dī  
 dī wūs      kai gīL teūz      mās      nāt dī 'a      dī wūs      k'a nī t'az  
 10 ta tin na      na gī gīs Lās      teaz zī      wūs      gwa dja la      mai yī wa  
 'a na gū tsit dī tsī      gwa nīL ta      ma ga      na gī tsin nit tal la  
 tsit dī      yī ga      na yī nit tal la      tsit dī 'ī      k'ī za      nī na nīs teūs sī  
 mī wūs 'ī      ka na dja la  
     La dī na Lī dī      ma tsin na      na gū wān nāL 'a      'ī kai yī gū  
 15 ka teit dīL La      gwa dī LāL la      'ī teī t'a      gū ts'ī      mī teiL t'ū  
 'aL nī tsī      yī dīs t'ū wa      gī zis gī      nāt tsī 'aL La      mī lin na  
 sit L'a      'ī teī t'a      na tsān na 'a nī      ka na dī dja      da ga  
 kū na gī dja  
     'is ga kū wa      ka tū na ga      dī t'aL za      na ha ga      ka hī  
 20 nas Lāc      na ga wīL ga      'is nīl la      'ī teī t'a      nī yāL la  
 ka hī gū      na dī gī tas la      mī tsīL t'ū La      gūL ka dī tsit  
 na gū haL      i t'ī gī      gū teī dī 'aL      dū      gū Lī ta 'aL la  
 k'a mī Līl la      na gū tsī ga      t'ī gī      'ī teī t'a      gū ts'ī      dī na gū  
 ka na dī yāc  
 25 ha nī da t'ī gī      gū gī la      t'ī gī      ha nīc      Lai yī ka  
 has saL 'a      'is nīc      'ī wa t'ī gī      teas L'ūL      'ī teī      mas tsī  
 dī teī L'ūc      'ī wa t'ī gī      has da a      'a kin na      nat zin na  
 maL dī sūt tī      gūs tī ga      da teit L'ūc      'a kin na 'ī      tī ga  
 teiL tīc      'a La sī L'ū gū      za      mī za na      hai gī teic      'a t'ī gī  
 30 'a k'a      dū 'a t'a      sit da  
     Lat dī      'is gī ya      gū dja laL a      ma gū dī lū la      dī nī  
 'is gī ya      ma 'ī      yī ts'ī      dī yāL la      ha gīs nīl la      sī za  
 gū dja nī la      nī ka na gī ca ī      'is Lī      ma gū nī lin nī      nī ga

I will run. Then shoot at me. Over there the last one where it stands camp the last who shoots me will-kill me." When he did that he killed him. They to eat him butchered him. All took it home. They ate his meat. Small only they cut off. His friends in the bushes they put it. From it he came back. Just then towards him he came running back. He went in again.

Another time he was leading the camp again there was famine. He invited them again. He said, "You are-hungry?" "Yes," they said. "Then marrow for you I will make." While they were sitting there blanket his leg he covered. Knife he took up. His leg he cut off. Doorway he threw deer leg it turned into. Its marrow they got out. They all had it. To him they gave it back. Blanket under it he put it. Blanket one side when-he took his leg had become again.

Another time there was famine. He was leading the camp. Bull like he ran out, he made himself. In the brush from it they shot at him. The last one who shot him killed him. They butchered him. His meat small piece in the brush when he put he came out again. His tipi he went in.

"Young men, men load your guns. For you bear I will be. We will play," he said. In the brush he went. Like a bear he stood straight up. They shooting-at him he charged them. He threw them down then he-pretended to bite them. Not the blood was. When he-was done playing then in the brush from like a man he walked out again.

Sometimes he invited them then he said this, "My-friends do this to me," he said. Then bow string sticks both ends they tied. While he sat two men strong ones across his breast just they tied it. Two men very they pulled it. It was tied together only through him it came out. There still nothing wrong he sat.

One time young man he was doctoring. He was sick. This young man his mother to him she went. She told-him, "My son you doctor. I will marry you. Horse



- na ta 'a 'is nil la sit La ka 'i tsan na li dil la tsa  
 'a ki yi kū nil la nī ts'i dī ca 'is nil la gwa 'i  
 ha dja la kū yi yal la tcaz zī yis La na dī nī gīs teū ʔi  
 ga 'is gī ya 'i ta gil ti gwai gī lal la tū ki t'a  
 5 Las teū yi kit da yi djaj tcaz zī gīs La 'i k'a  
 na ga nī ka la 'i wa t'i gī tsa 'a ki yi 'i nat dī 'an nī  
 'i tsan na dīs k'a nī 'i yi k'a ta sī 'al la yis tsil dī  
 da nī 'a na zis tsal la 'a t'i gī ha dja gī tū 'i  
 na zis tsal la ta gū ha dja la tū 'i kit da tai ki  
 10 gwat tsa məs gin na sī lal la ts'ā kū 'a k'a tsī dī yi la  
 'i Lil la mī ka tsī dīs k'a 'is gī ya 'i dī na li  
 'a k'a xa nī gū li məs mī ka tū nī dī t'an nī-  
 dil glic cī 'i Lil la ta nī kas sī ka ki t'az la 'i gīs La  
 na ka tsit dīs ka 'i ka ha li nas 'a ga teū gū ts'i tū teū ga  
 15 na teī dī kəc yū wū ga kəl dī ka ha li ha ki dji  
 mī ts'ai ya na kəl dəl La ka nū k'a 'a na tsit dīs hal la  
 mət dī mīl Lai ya 'i Lil la hat tsis kil la yi t'i gī  
 kū gī gī gī kil la 'a t'i gī 'i ka ha li teū t'in na 'is sī na  
 hai gīs nil la ha kū tea ga nī gī la ta mis t'ū te da ga dī gət dī  
 20 kū nī tsī gī yi ya ha 'a 'a t'i gī ha nis tsin na 'a dij gū  
 'ət dīt la dī gī mis t'ū tī dī t'a 'an nīl 'in nī nīs tsin na 'a  
 ha dī gī nī dī gī ha na teīs dji da ga dīt tən nī 'i na dīs tī  
 'i ka ha li teū t'in na 'i yīs nil la 'a t'i gī sin na ha kū tea ga 'i  
 yi gī lal a mis t'ū tī 'i ts'i kū mī ts'i gī gī yal la  
 25 ha tsin nil la 'ət dī da dī gī mis t'ū tī nət dī 'a hī  
 ha nil la dī gī 'i ha na teīz tsī da ga dīt tən nī nət dīs tī  
 'is nil la has tsit dī gī nil la dij gū 'a t'i gī ma ga  
 yi tsī nī ta la  
 'a t'i gī gī Lil la na dī yal la mis Lai ya 'i 'a k'a  
 30 tū da ka li dī yas la ma tsin na na teī gīs kil la  
 'i wa t'i gī ha nil la lās sa ts'i ta kəc ca 'is nil la  
 'a t'i gī mī tea sī nil la gū tsī dī zəl la 'a Li ta ta ka sī ya  
 'a tsil lal la gī mət dī ha na tsis kil la 'i wa t'i gī  
 ha tsin nī tea sī ha gīl 'a 'i Lil la dī t'an nī dī glic cī  
 35 'an na gim mī tsil dīl hal 'a t'i gī gū ts'i gīs da la dī nī  
 tsa sī ha gīs 'a mit tsit dī gāi yi gū 'a dī lal la dī t'an nī-  
 dil glic cī tūl gāi ye gwa dī lal la na ki t'ai la nis ga gū tī

good to you I will give," she said. "Before I come manure put in the fire. Stones two take in. To you I will go," he said. The mother did it. He went in. Deer its skin he spread beside it young man stand on all fours he made. Water in it yellow paint in it he poured. Deer skin on he placed it. Then stones two he picked up. The manure burning on it he placed. When he hit it a gun it sounded like. There when he did it water made a noise. Three times he did that. Water inside three times a lump from the body was in it. Outside fire still was burning. With it he burned it. Young man got well.

Still buffalo were knife broken, hawk variegated with steamer they two went on board. Hides they shipped down. White man Edmonton from to the large water they sailed. Over there while sailing white man captain his wife because he made free with island he threw him away. From him his friend with he sailed off. There they came in. There white man Indian<sup>7</sup> was there. He told them, "Chiefs when they invite you pipe where it hangs they will take you. There they will ask you four-times which of these pipes will you have, they will say to you. You say this where the sun rises which hangs I will take," the half-breed said. Then chiefs they invited pipes to they took them in. He was asked, "Which these pipes will you have?" he said. "This where it goes up it hangs I will take," he said. They said it to him four times then to him they gave it.

Then with it he went home. His friend still on the shore was walking around. He was hungry. He sailed up to him. Then he said, "To my friend I will go ashore," he said. Then they would not let him. He struggled (?). At last he went ashore they let him. From them they sailed on. Then some one said, "Crow who lifted up and hawk variegated they threw away." After that they stayed there. This crow who lifted up white headed eagle he made himself. Hawk variegated big goose he made him.

<sup>7</sup> Halfbreed.

nī na gī nī t'ai la 'a t'i gī gū ts'i ka hī 'a dī ləl la tsa sī-  
 ha gīL 'a dīL Lai 'a nat dīs gīl la 'is da na t'i gī  
 'is dū wa 'a na dī 'ic 'a k'a sū kū L'ū k'a nī na nī na gī nī gīl la  
 'a t'i gī gū ts'i na ka t'as

5 nī cī na sas dīn na ma ga la ts'i kū gī gī t'az la  
 gī gī ka 'at tsa la tsa sī ha gīL 'i ha nil la za ga  
 mit ts'ai ya 'i Lil la tsit da gəc mis Lai 'a ha gīs nil la  
 ts'i ka ka 'a nī nī tsī dīs hal dī 'i t'a ka 'at dī nī 'is nil la  
 'i wa t'i gī ha na kis t'az la kū yī na gī gī t'az la mis t'ū tī 'i  
 10 nas 'a ga teū ga na tsin nī ta la gī gī ts'i dīs kī la gū zīL a  
 gī ma ga tsin nil la la dij gū mis t'ū tī 'i gī gī Lil la  
 nat dī yəl la

## A CAPTIVE SARSI BOY ESCAPES FROM THE SIOUX

yī wū' ts'as sū wa tsū t'in na ts'it da yīc teūt  
 yī t'i ge ha kit dī tī dī nī' ts'it da dī ga gwa la  
 15 ha kit dī 'i ts'it da 'i 'as nil la la sin nas tī k'a  
 na dī gī dja gōL na dīs da yī nin nī zin da sī na ga  
 dī gī nī la sī na ga dī gī nī na dīs da yī nin nī zin da  
 'i wa t'i ge da 'a kī yī k'a 'is Lək ka ma gū nī lin nī ka  
 na dī gī dja 'a t'i gī gwənt dī 'is Lək ka ka dī ya  
 20 gwa dī dīa 'a t'i gī gū ts'i nīs k'a' na tsī dīs L'a ka  
 'a kī ye zā' na dī ləl la yī teit dī nī dū wa ha t'a  
 ts'as dīn na dīs dja tsa ta' na gī daL Lī 'i wū  
 'i tēi Lət dī na zī 'an na teīs k'a nīs da mət tsin na  
 dī gī Līt ma 'a na gūc tean na ts'it das kən na kā wa  
 25 gū jək k'a

dīj na ta dīs ts'in na 'is Lī gas sūL la ma ga  
 na xa cī gī na da t'an na 'an nī t'a i 'is ts'in nil la  
 tsū t'in na 'a nīs t'a 'is nil la Lək ka zā 'is gī ya la  
 ta gīs tī gī gī Lil la na tī la kā wa gī gīL Lil la  
 30 nī nūn nī dal da nī ta zīl le 'i Lil la gī ga nīs teūt  
 'i wa t'i gī dī gī ta zīl le gī zīz la dīs dīai la  
 'is Lək ka t'ək k'a 'i nil lū wū' mī zək k'a xai gī gū 'i  
 teīs te'it dī 'i lil la mī zīt da yīs dləl la dī ne k'a t'in ne  
 yī ts'i kū gī ya 'i 'i gīs nil la nī na dī dza 'i da gū  
 35 nət dī na 'i wa t'i gī na gīt dīs nīk' tək zīl lī 'i da sī la

They flew up. Main land they flew across to. From there bear he made himself. Crow he lifted up his friend he carried on his back. He was tired then another he turned himself into. At last prairie he brought him to. From there they two walked back.

Cree by himself his tipi was to it they went in. With them they ate. Crow lifted up said, "Let us kill him; his wife with let us run away." His friend said to him, "Because of a woman since they threw you away why do you say that?" he said. Then they went on. They came in. Pipe Edmonton they left. To it they went. Clothing to them they gave four times. Pipe with they went home.

#### A CAPTIVE SARSI BOY ESCAPES FROM THE SIOUX

Over there Sioux Sarsi boy captured. Then chief this boy his son he made. The chief the boy he told, "My son, without my knowledge do not go home. I will go home, if you think me tell. My son me tell, I will go home, if you wish. Then two horses good ones you may go." Then from him horses for he went he pretended. Then after that on foot he ran back. Moccasins two only he took. Food was none. That way just himself he started back. Through the mountains he was coming back. Over there High river other side hill he sat down. He was starving. He was weak. Beyond him little ways Piegan tipis few were.

Four people were riding. Horse they were leading. To him they rode up. "What tribe are you?" they asked him. "Sarsi I am," he said. One young man put him on a horse. With them he took him back. Tipis with them he came back. Food, soup with him he gave. Then this soup he drank. He breathed out like horses. Hail stones from his mouth came out. Seven there were before him they lay. This man to him he went in he asked him, "Will you pick them up?" "Certainly." He put them in his mouth again. Then he swallowed them. The soup it was came out again. His

na dīs kū yī      yīs lai ya      ʼa kī yī k'a      ʼis lək ka  
 ma gū nī lin ne k'a      ʼi wa      gū zīl la      yī ga      nī la  
     ʼi wa t'i gī      tsū t'in na ts'i      na dīs l'a      ʼi wū      tsū t'in na ga  
 ts'in nī      dī ne      tsū t'in na      ts'it da ʼi      dīs lai ya ʼi  
 5 ʼas nīl la      yū wa'      tsū t'in na ts'i      na da l'a      na gī dīs l'a  
     ʼi wa t'i gī      kū wa ga l'a      tsū t'in na      ts'it da ʼi  
 mī ta lī tē'ək ka      nī lā nī tī      dī ta      ʼa kī      gī gī ta      dī nī  
 ts'it das ka na ʼi      ʼis t'a      na dī yal la      ʼa kī yī k'a  
 ma gū nī lin nī k'a      yī ga      nīs tī      tēi gī ca      nī lən nī tī  
 10 yī ga      nī la      ʼa t'i gī gō wa      na ts'a t'in nī      nī nāi dja dī

## A LAME MAN CAPTURES HORSES

ha lī tsa      tsū t'in na      dī k'a hī      gī zīl gī      dza na kū  
 sī nī      ʼa k'a      dū dī dīs sīt      ʼa t'i gī      ha lī tsa ʼi      ʼis kī ya  
     ʼi lī      ʼa lī ts'i dal dī      mū wūs      k'a ts'in nīl tē'a  
 l'i gī sī k'assī      mū wūs      nən nīs tēūk      gū na nī nic ca  
 15 mū wūs      ʼa ta gū lī      līl la      ta nīs da      gū dī gīs ma'  
 yū wū      gū za dī      nī cī na ga      ʼi l'ai gī      ʼis lək ka  
 gī nī ʼi kū      gū wa      na gī yī dal      ha lī tsa ʼi      gūs tən nī ka  
     ʼis lək ka      nīs ʼi      ʼa t'i gī      ʼi l'i gī      gū za ts'i      na gū nī wūt  
 na gū dī gai ye      ʼa k'a'      gū na wūL      dī lī tca ʼi      ʼa k'a'  
 20 ta sī da  
     ha na gū nī gī wūL a      nī cī na      ma na      gū nī sīt      k'a da  
     ʼi na gīl ʼin nī      nī dza      gwa ʼi'      ma na      gū ts'i nīs sīt  
 na tēi gīl l'a      ʼis lī      tē'a zīt da      dī ya      ts'i yī ga      nīs tī  
 nīs ts'it      ʼa t'i gī      sīt tin ne      gū l'ū wa      zā'      dīl nū  
 25 nī cī na ʼi      yī ka      na gū nī cite      ʼi wa t'i gī      yū wū  
 win nas dīn na'      ma ga zin na gū      ka tēi dī gīl l'a      ts'a ʼi  
 nī cī na ʼi      ha nīl la      ma ga zin na      gwa dja la      ʼis lək ka  
 zā'      na' gī dī wū la      nī cī na 'i      ʼa t'i gī      dī na gū  
     ʼan na dja la      na dīs dja      yī līl la      ʼa la ta nīn na ʼi      yī ga  
 30 nī na ha cī gīl na      ta ts'is tīl la      ka wa      mī līl la  
     nī na ha cī nī na  
     ʼa lī sī dal dī      sī da      i līl la      gū kən na na      līl la  
     nī cī na      ʼil t'ūL la      nī cī na      tē'is tē'a      mī za na  
     dīl la ʼi gūL i      dū t'a gū lī      ʼa k'a'      ʼi dī tē'as la      mī zī k'a  
 35 tē'is tē'a la      dī dī t'ən nī ʼi      mī zī k'a      dza t'a ga      da dī nīl k'a  
     ʼi gūs t'i ga      nī cī na      dīl gīz      mīl      na ts'it dīl dal

friend two horses good ones and clothes to him he gave.

Then from Sarsi one came. "Over there Sarsi camp," he said. This Sarsi boy his friend said, "Over there to Sarsi we will go." They went. Then they came in. Sarsi boy his father's horses very many his father. Two he slept. This Piegan in turn was going back. Two horses good ones to him he gave. Cloth very much to him he gave. Then they saw him again when he came back.

#### A LAME MAN CAPTURES HORSES

Old man Sarsi smallpox killed him. Long ago I yet was not born. Then the old man young man was. When they were fighting his leg was shot. Left side his leg crooked it grew. His leg even then with he rode. He led a war band yonder far away Cree camp at night horses they were to steal there they came. Old man six horses he stole. Then that night far away he drove them. At daybreak still he was driving them. His own horse still he was riding.

While he was driving them Cree him overtook. Behind he looked then he saw them. Him they overtook. He jumped off. Horse away from he walked. Face down he lay, his eyes shut. Then he was lying grass only a bunch stood. Cree for him were running about. Then yonder across the river like a wolf he ran up the hill. They saw him. The Cree said, "Wolf he has made himself." Horses only they drove back the Cree. Then like a person he made himself again. He went back with those accompanying him him they overtook. They put him on a horse. Camp with him they came back.

When they were fighting he was sitting with defending them with Cree while he was shooting Cree shot him. Through him though it went nothing was wrong. Still he was shooting. In his back he was shot. Bullet on his back like gum it stuck on. Just then Cree withdrew, then they went home.

## A BEAR BRINGS HOME A CRIPPLED SARSI

gī tī tsan nī ga dji win nī ga da dis ma na ts'a sū wa ts'ie  
 na ga dīl dī 'is gī ya la na ts'it dī tsa mū wūs  
 'a xan na dis t'as gī ga ga na nīs t'i dī gī ga dī na dis dal  
 nī lān nī kwī yī ga yī tā 'i gūs t'i ga nī nī ga yī ts'i  
 5 kū yī gət 'i wa t'i ge dī gī nī nī ga 'i 'a gīs nil la  
 na gas t'a na dī t'as 'i wa t'i gī 'ā yīs nil la 'i wa t'i gī  
 nī nī ga 'i yī ga na ga la 'is lək ka t'ək k'a yī k'a  
 tən nīs da la 'is da gī djet dī 'a t'i gī gī git tā la  
 tī na gī gī t'as dī yī k'a ta na nīs da la ga dji ga gū ka  
 10 na gī dis gil la tī ga L'ag gī gūs t'i ga kā wa  
 nī na gī nī gil la kā wa gū ta' na gī ya 'a gī la la  
 ga dī 'is dū ts'i na dis gəl la ts'ā xa gī yəl la ma ga  
 na gī yəl la 'i wa t'i gī mī na djin na ga kū na ts'i gīs til la  
 'i wa t'i gī xas ts'i nil la da nī na nī dja 'a 'a ha nil la  
 15 nī nī ga k'a ta sīs da 'a 'a yī t'i gī na sī ts'in nīs tī nī  
 gū ts'i 'i t'i gī gū ts'i na sa gəl la t'a 'is nil la

## TWO HAWKS TEST THEIR SPEED

'i zūL teū 'i wa 'is ga nī dal 'a lī ts'i ta za gī dī təl la  
 ka tin nī gī mī zīs ts'i la 'is ga nī dal 'i ha nil la  
 sa xan na 'ət da dī dīa lī k'a 'i ha nil la dī da 'a  
 20 nī xan na 'a da dī dīa 'aL dīn nī 'is ga nī dal 'i ha nil la  
 teīs t'a gūs tī ga 'a t'i gī 'a da dī dīa lī k'a 'i ha nil la  
 dū ha t'a 'ət da dī dīa 'is nil la 'i zəl teū 'i ha nil la  
 sin nī sa xan na zū tea zā' 'ət da dī dīa 'is ga nī dal 'i  
 ha nil la 'i teī tsī yī t'a t'a yī ga na t'a hī zit da  
 25 'i gīs teūt la dū ha t'a 'at da dī dīa teīs t'a gūs ta gī  
 yī ga 'a lī ka nī gī gū la dī nī 'is ga nī dal 'i  
 'i zūL teū 'i gīL dīL ts'i la dū zīL gī la 'is ga nī dāl 'i  
 ha nil la sīt da ga sit da da na ga sa xa na zīs gā  
 'is nil la yīL dīL ts'il la nī lān nī nai gīL dal 'i zəl teū 'i  
 30 ha nil teūt dū gī zīL gī na ka zū tea 'a ka gī dis t'ai la  
 ka dī t'ai dī 'is ga nī dal 'i i līl la dīs tsil la 'i teī ta  
 dīs t'ai dī gūs t'i ga yī ka dīL la la yī zīL gī 'i zəl teū 'i  
 'a gī nīs teūt yī ga zā' yī ga la dū 'at da dī dīa  
 'i zəl teū 'i

## A BEAR BRINGS HOME A CRIPPLED SARSI

Several Blackfoot south went to war. From Sioux when they were coming back a young man was. When he fell stone his leg cut off. For him they made a shelter. From him they went back. Many times in it he slept then bear to him went in. Then this bear said-to him, "I pity you. Let us go home." Then, "Yes," he said. Then the bear for him stood. Like a horse on him he mounted. When they were tired there they-slept. When they started again on him he mounted. Blackfoot camp to it he brought him back. Late-at night just camp he brought him back. Tipis among he get off he made. From him different direction he-went off. Outside he went out. To him he went up. Then his relative's tipi he carried him in. Then he-asked him, "How did you come back?" he said. "On-a bear I rode. Over there where they left me from there then from there he carried me," he said.

## TWO HAWKS TEST THEIR SPEED

ʕizɛltcū and ʕisganīdal to each other while they-were bragging a man was listening to them. ʕisganīdal said, "My buffalo are swift." The other said, "Which-ones your buffalo are swift do you mean?" ʕisganīdal said, "Swallows those are swift." The other said, "Not at all they are swift," he said. ʕizɛltcū said, "I my buffalo zūtca only are swift." ʕisganīdal said, "Tree to it it flies there it flies before I can-catch it. Not at all it is swift." Swallows for him together he drove, this ʕisganīdal. ʕizɛltcū flew at-them. He did not kill them. ʕisganīdal said, "Where-you are sitting sit; this time for you my buffalo I will-kill," he said. He flew at them. Many he threw down. ʕizɛltcū he gave them to because he did not kill. zūtca for them they flew. When they flew out ʕisganīdal then flew at them. Trees were flying to just then he caught-them. He killed them. ʕizɛltcū he gave them. For him only he killed them. He was not swift ʕizɛltcū.



## A BIRD HAS ITS MATE DOCTORED

ka t'in ne    ta si da    mi tsi di l'gai ye    'il t'ũ gũ    di l' L'a  
 mi tsi di l'gai ye    di s ka ka ga    ta si da    'a ki    mis ka ka  
 ka t'in ni 'i    'i ni l t'ũ    mi mi zõ na    'i di l La    na t'ai di  
 win nas din na    tũ teũ ga    nis da    tsĩ yi gi tsi gi si    gũ ts'i  
 5 mi ka la    k'a na di t'ai    di s ka ka ga    tũn nis da    mis ka ka  
 mi na ga di gin ni sil la    'i wa t'i gi    di ts'ai ye    ka    di di s t'ai  
 yi ga    nis da    di te'ai yi 'i    'a ga gi gil li    gũn nis dja  
 tsĩ yi ga k'a si    di te'ai yi    'at di    La gil La    gũ tsit L'a  
 dza na    'a gũ dja ki    'is ga ni da l 'i    Lil la    k'a na di t'ai  
 10 da    ts'i ka    si l ti ne    gũ ga    na gi nis da    'is ga ni da l 'i  
 ts'i ka 'i    mai ya li lal di di da l    'i dji ni    Lil la    ni na La ti da  
 'ai gi la    dza na    ha gil 'in ne    'a li ta    di na li  
 na gi gi t'aits    na gi nis da    ni na gi t'ai di    'a t'i gi  
 ts'i ka 'i    gũ dja    na dja    ka t'in ni 'i    mi tsi di l'gai ye  
 15 ni l t'a    si t'ai    dũ gi t'i    na ni t'ai    'a t'i gi    na ka di l La  
 tũ    'i gil La    tũ da ka    k'a    tas lãn ni    ta ga gi sũ  
 'is gãn ni da l ts'i    na gi gil ni j    'is ga ni da l 'i    'il na  
 k'a ni tsat di    mi tsi di l'gai yi    ka 'i yis t'a    'i gil na  
 k'a gi ni tea di    gwa di    na di s t'ai    di na    'a kin na  
 20 di git t'ũ ts'i    na gi di s t'ai    di na ti 'i    ka t'in ni 'i  
 ha gi ni zin na    yũ wũ    ta ka gi gis tin ni    nas 'i    gi ni zin na la  
 gi ts'i    di ya    yi ga    na gi yat di    tas lãn ni teũ la  
 gi gi zit tsĩ    gwæt tsa

## A FIGHT WITH A BEAR

Li ki zã i    k'a t'i ne    dza zi    'is t'ũ kũ    di s L'a    dzaz zi  
 25 yi gũ l Li    yi 'i    na sa    di ya    gũs t'ig ga    mi ni ts'i  
 ni ni ga    mi l di s tsit    yi ts'a ga    da ga di s tsũk    di tei  
 ni La ni gi L'as si    yi tea ga    ts'i L'a    di ni    di na 'i    'i tei  
 'i ni teũt    ni ne ga 'i    di tei 'i    zã'    'as L'a    yi ni  
 yi 'a l    'i t'i ge    yi ts'a ga    k'a da    'i da di s dji l    mas  
 30 xa gi 'a    gi tsal Li    nit dza    di tsĩ    ga na nis tsil    ni ni ga  
 tsin na    tsĩ gũ di    gis L'a    yi ts'i    gũ di s nate    na ni zit  
 gis ni    gũ ni ts'i    di ka di    nis L'a    'i wa t'i ge    gis teũt  
 yi ziz gi    mas    i Lil la

## A BIRD HAS ITS MATE DOCTORED

Man mounted. Its head white he to shoot rode off. Its head white beside her children was sitting. Two her children. The man shot her. Through her belly it went. When she flew up the other side by the lake she sat. From the east after that her husband flew back. Beside his children he sat. His children told him. Then his wife after he flew. Beside her he sat. His wife to fix her he tried in vain. East side his wife without he flew. Short time when it had been hawk with he flew back. There woman lay beside her they sat. The hawk the woman around sitting sang when she sat up he made. Long time he did that, finally she was well. They flew up. They lit again. When they flew up again then the woman well became. The man its head white sky flew up, he could not see it. It flew up. Then it came down again. Water it went in. Shore on water serpent it dragged out. To hawk he offered it. The hawk began to eat it. When he finished eating it his head white in his turn began to eat it. When he finished eating it from it they flew away. These two to their nest flew back. The Indian the man thought, "That-yonder which they dragged out I will see," he thought. To it he went. To it when he came up large water serpent it was. Its upper part they had eaten.

## A FIGHT WITH A BEAR

One man moose he shoot he rode. Moose walking he saw. In front he started just then in front of him black bear chased him. From it he ran. Three leaning-on a stump behind he ran. This man tree he caught. The bear the tree only he ran against. Its face he bit. Then from it back he moved. Knife he drew. He struck it then his nose he cut off. Bear old away-from him ran. To it he spoke. "Stand still," he said. To him back it ran. Then he took hold of him. He killed him knife with.

## CUBING MADNESS RESULTING FROM A WOLF BITE

ha li tsa      mī sū wa      tsit da      sīt L'a      kū ta sī  
 yī dis tsū la      ka wa      gū wa      na gī dis la tsī      gūs t'ī ga  
 ma ga zin na      nis gīl nī      gī mī ka      na gīl la la      tsit da  
 sit L'a 'ī      'ī tēi      ma ka tsī gīl la      sit da 'ī      dis sī ga  
 5 ka dī gīs teū li      gūs t'ī ga      ma ga zin na 'ī      mī teil tēi  
 k'a nīl teū      ha gī lai gī      'a la ta      ka gī dūz      ma ga zin na 'ī  
 gwa dī      'is dū ts'ī      dīl la      ka wa      kū gī yī t'as dī  
 ha li tsa 'ī      kū      sīl sit dī      nis gīl      mī te'a      ha tca giz  
 kū      lit da sūs      sa ga      te'a      kū      lī tsī tī gī la dī      lī yī gī ya  
 10 dū ta gū li      ta ka na cī dja      'a t'ī gī      dī na lī

## MINOR NARRATIVES

## I

tū teū wa      dī k'a      ts'in na      nīs tin hī      k'a      ta zī k'a  
 'ī da      xa gī 'a      'ī wa t'ī ge      ts'ī da      tēi te'a      lī  
 ga gaL lī      yī nī teūt      yī ga nī      dū yī dī tsit      mā  
 yī k'ān nīs tsīl      'ī wa t'ī ge      tū      yī ga      na gīs nat  
 15 nīs tin ne      ta nīs gits'      yī wa t'ī ge      tū      wī gī gī kī      lān na  
 nī wa      ta kas gīz      lān na      ta kān nas gīs

## II

tū teū ga      xa nī      dī k'a sit da      tū da ka dī      'a kin na  
 ta sī da na'      dī na teū      'aL t'at dī      ts'ī yī ga      sī tī la      ga  
 na gal lāi la      lī ka      ha nīl la      na sī min nī      na nī 'a  
 20 lī k'a      ha nīl la      ta ga dī na 'a'      'is nīl la      lī k'a 'ī  
 ha nīl la      'a la dī nī      lī k'a 'ī      'ī tēi      i līl la      yī ts'ū za k'a  
 gwa nī gīz la      na ya'      gīl nīl la      gū na gīs gaz dī      mī na ga  
 da dī k'az la      ta ga na dīs dja la      lī k'a 'ī      ta ga na gī dīl gīl  
 ta za k'a gū wa      na dū wa la      ta ga dī na la

## III

25 yī ge      tū teū      xan nī tī      ts'iz ziz gī na 'a'      'a kin na  
 din na na 'a      gī yī zis gī      'ī wa t'ī ge      na gī gīl 'aL  
 gī gī tca nīs 'aL      gī gī tca nīs 'aL dī      mī tean nī      xa gī gū i dī  
 tū teū gū      'a dja      'a tēi teik k'a la      yī wa t'ī ge      tū teū  
 gwa dja      gī gī tēā      ta tca gī gī dīt dis lāt dī      na gī gīn nī la  
 30 mī tean nī      yī mī k'as sī'      tū      dīs na      'ī wa t'ī ge      tsis ka

## CURING MADNESS RESULTING FROM A WOLF BITE

Old man his grandson boy small to the camp he-  
led him. Tipi to they nearly came just as wolf mad  
after them ran. Boy small tree climbed up. The boy  
his grandfather as he pulled him up just then the wolf  
his hips he caught. He was doing that at last he climbed-  
up. Wolf from them another direction ran. Tipi  
when they two went in the old man fire when he smelled  
he became mad. From him they ran. "Fire make for me  
outside." Fire when they had made it he walked in the fire.  
Nothing wrong he came out again. Then he was well.

## MINOR NARRATIVES

## I

Lake on they went ice on. Middle horn stuck-  
up. Then boy small dog was dragging he took hold-  
of it. He let go (?) he would not (?). His mother  
chopped it off. Then water from it he moved. Ice  
broke to pieces. Then water they fell in. Some over-  
there ran ashore. Some ran back ashore.

## II

By a lake, buffalo painted by the shore two persons  
were riding. Large man naked face down was lying.  
To him they rode up. One said, "He has been swimming.  
He is one of us." The other said, "He is a water person,"  
he said. The other said, "You are right." The other  
stick with his loin he poked him. "Get up," he told-  
him. When he looked his eyes were red. He ran in the-  
water. The other hit him as he ran into the water (?). The-  
middle he disappeared. He was a water being.

## III

Over there lake buffalo was killed. Two men people  
killed it. Then they butchered it. They took the entrails-  
out. When they opened it its entrails flowed out like-  
a lake it became each way. Then lake became its intes-  
tines where they dragged them they put them on the-  
ground. Its intestines where they dragged water flowed.

gū tsī L'a    'a dja    na gī gin nī la dī    tū teū gū    'a na dja  
 Lū k'a    tū teū    i ts'ī    Lū k'a    'as kən na 'ōL    tsis ka  
 gū teī L'a    yī ts'ā

## IV

ta dīn nīL tsī na    ha cī gūL naL dī    teis k'a    ka haL cī  
 5 gī gīL na    La ka za    ta sit da    xa nī    ha gī caL    'a lī nī  
 na dī sail ga    gī nī    gī gī tsī    'il tīl    na ka ha cī    gī nīL na  
 ka ha cī    gī gīL na nī    dī na 'ī    nī dū wa    Lū na    zā  
 gū L'ū wa    miz za na    xa gī 'a    'a t'ī gī    sīL tī

## V

dīn ne    k'a t'in ne    'ī dīs sa dī    xa nī    mək ka  
 10 zis gīL la    na ts'is 'aL dī    tea gūs da la    tea gīs da 'ī  
 na ts'it dīs tī    'a ka ts'ī la 'ī    zit da    mī tea ts'in nīL la  
 nī dza    tc'a na    gūs dāl la

## VI

ka gī zī ma zin na    ts'ī ka gū    'a dī 'ī cī    'īs kī ya  
 'īs Lək ka    ka dī yāl la    na gī dāl dī    mī zit da    na gī zil la  
 15 ts'ī ka    ma gū nī līn nī gū    'a dī dlāl la    'ī wa t'ī ge  
 yī ga nīs dal la    dī nī    'īs kī ya 'ī    nīs gī la    ta sī tsa la

## VII

nīL tsī    sit L'a    dī dī La dī    t'ī gī    dī ka    'a kī gī Lən na  
 'a ka    gī gī dī 'in    'ī wa t'ī gī    gū tea    kū gī dī jīj

## THE WAR DEEDS OF EAGLE-RIBS

'a ka dī    gū t'in na    ġa dji    teū t'in na    nī cī na  
 20 na ka ca    xa gīL ziz    'ī wa    da    nas 'ī ga    'an na Lən na  
 kū gī ziz    teis iL gī    nī cī na    sīL tī    'ī wa    sī nī    ġa dji  
 ha lī tsa    sa t'a    mī sət sa    dī na    'a ga    'ī gīs nī  
 mī tsis La tsis sī    dī gīs te'ūl    da gū nī t'a gū na    mī sī  
 sis gū    mās    i Līl la    sis gū a    'ī wa    sī nī i    dū cīs te'a  
 25 sīL t'ū gūL    dī t'ī gī ka    ha kī teī    'īL djin nīc na    'a nīs t'a  
     yū wū    sī La    'a ka dī    na tsin nīL dī    ta na    'ī sa Lī  
 wūs sa    ha ha cīs ca na    gī nəl gū    gīs 'ī    k'a na tsin nīs  
 t'ī gī    gūs t'ī ga    nī na ha cī na na    'ī wa tī    ha dīs sī

Then creek small was formed. Where they put it like-  
a lake became again. Fish lake toward it fish swam-  
back and forth creek small from.

## IV

Men who were riding as they were riding along on a hill  
up they rode. One was riding, buffalo he was chasing.  
Meat we will get they said. To him they rode. Down-  
the hill they rode. Up the hill when they rode the person  
was gone. Mouse only straw through it was stuck.  
There it was lying.

## V

This man when hunting buffalo cow he killed.  
When he opened it unborn calf was in it. He took it home.  
They put it in the pot before they opened it then another  
was inside of it.

## VI

Wolverine girl turned itself into. Young man horses  
he looked for. When he came back in front of him she stood.  
Girl handsome she made herself. Then he married her,  
this young man. He went crazy. He died.

## VII

Wind small it whirls then their mother they own  
for her they look. And in her abdomen they go in.

## THE WAR DEEDS OF EAGLE-RIBS

Two tribes Blackfoot Sarsi Cree to fight they-  
ran out. Then here fort they had made they went in.  
They killed. Cree was lying dead. Then I Blackfoot  
old man with me his dead body this one for I caught.  
One side of his scalp I tore. How many times his back  
I stabbed. Knife with I was stabbing him. Then me  
they did not shoot although they were shooting at me. On-  
account of this chief those they call I am.

Over there I was. Two places there were tipis. Three  
we were ahead we went. Coming toward us I saw.  
They were finishing putting up the tents then just we-

na ga na tsi gi dal ʔi t'a ka na nəs na i Lil la di sūs t'i gi  
 mi ni tsi ʔi sil dal ni ci na ka t'i ni di ts'ai ya ʔis li k'a  
 ta sis xal teit diL la di ʔis ga ka gūn na gū nis si t'i gi  
 gi zil gi si ni gi na ga gi na ʔi Lil la mi ka la sis sil gi  
 5 ka t'i ni ʔi na ʔil sit di gūs t'i ga mit tsa ga ʔi gi ni  
 mi tsi k'iz za na di gi ts'ul a ka gū zā' mi zi sis gūt  
 məs ʔi Lil la ʔi wa t'i gi kō wa ʔa kū ha si la  
 ʔi wa yū wū na di sis ma na li gū nis na na zā'  
 ʔis sa li ʔa t'i gi ʔi l'a gi wū sa da ca ʔi ni ci na  
 10 gi ni ga li tea ʔil tēu la ga diL di na na tsil la  
 ni ci na ʔi sa li ni sa yi ni zin ʔi gū t'i ga ma ga  
 ʔa di nil sil tsi yū ʔis li da gi L'ū ni t'i gi na hi ts'i  
 da ni ʔi Lil la di ya si ni k'as lai yi ga sis ti  
 na ga , na gi ya gūs t'i ga ʔi sil dūL ʔis li da gi L'ū ni  
 15 ts'i nəl sit diL la gi mig giL sil tēi tēi si ni ts'i  
 ta ni da ʔis li ʔi yi di gi tai i sin ni ts'i sil t'ū gū  
 li ka din nil la ʔi gūL i mi ts'i giL sil di di gi ts'ul i  
 sit diL la dū sin nil t'ū i gūL ʔi k'a gi sūL ʔis li  
 giL tēu ti mi ni gi ta tsin nis da mil gi tsit dis sa  
 20 ga dji yi k'a ta nis da ni ci na ʔi ts'i da ni  
 dū xa giL la ni ci na ʔi ti na tsil la ʔi wa yil nəl diL tai  
 na giL t'ū di da ni dū xa na giL la ni ci na ʔi xa na tsil la  
 gūL nal la di na giL t'ū di da ni dū xa na giL la ni ci na ʔi  
 giL diL tsi ʔis li ʔi tsa ga na tsū tēi tēi giL t'ū  
 25 ʔi gū t'i ga ʔis li za zi ka ka sit diL la ni ci na ʔi  
 ʔi diL t'ū gi tsil tsi ci djet ga dji ʔi məs ʔi Lil la  
 giL diL tsi yi ga na diL la di gūs t'i ga ni ci na ʔi  
 məs xa giL la ga dji ʔi gi tsəl sil la ʔi wa ni ci na ʔi  
 sit diL la ga dji ʔi tsa na di ʔa ni ʔi Lil la gi di sa  
 30 ʔi gū t'i ga gū ni tsil li ka ni din nil la tsa ʔi ʔi Lil la  
 gi nit tsil yi ga gi giL tsil di na tsil la ni ci na ʔi ga dji ʔi  
 nis da sin ni zā' ha sis sa ʔi wa ma na nis la

came back. Then I said, "To us they are coming." Anyway putting the tipi down with we hurried (?). At them we charged. Cree man his wife on horse he threw. While she ran young men came up to her then they killed her. I my brothers with her husband we killed. The man when he fell just his scalp I caught. One side of it I tore off. Twice only his back I stabbed knife with. At that time thus we did.

Then over there I went to war. Again ten only we were. Then at night ahead I went. Cree my-brother's horse had captured. When we were going to us he caught up. Cree perhaps we were he thought. Just-then in front of him we hid ourselves. There horse he tied then toward us gun with he walked. I quiver over my shoulder it was. To us he walked up just as we charged at him. Horse where he tied to he ran back. In front of them I was running. Not towards-me he could mount. The horse he letting go at me he might shoot he turned around although toward him I ran. As I was about to catch him he ran. He did not-shoot me although still I chased him. Horse which-he had captured against him somebody mounted with it he chased him. Blackfoot on it mounted. Cree toward gun did not go off. The Cree ran again. Then he-charged at him. When he was going to shoot gun did not-go off. The Cree ran again. When he caught up, when-he was going to shoot gun did not go off. Cree he-charged at him. Horse behind he jumped around. Not he could shoot. Just then horse under its neck he ran out. The Cree he shot. His hip he hit. The Blackfoot knife with he charged. To him when he ran up just then the Cree knife he pulled out. The Blackfoot ran from-him. Then the Cree ran. The Blackfoot stone which-he picked up with it he chased him. Just as he threw it he turned around again. The stone with he threw. By him when he threw he ran on the Cree. The Blackfoot sat-down. I only chased him. Then to him I caught up.



ɛ̃l t'ən nī    ɛ̃l Lil la    mī zī    za na    xa gīs tsī    k'as t'a  
 Lū kwī yī ga    ɛ̃l t'ən nī    La t'a    mīL    gīs t'ū    yī dū wa  
 tēi tēi    ta tsa    tēa dī t'a    nīs tsa dī    da nī    mīl la    La ka  
 ɛ̃i gīs nīk    mīL    da gal ʼa ga    na gīs xal    ʼa t'ī gī kō wa  
 5 Las gū la    nīs k'a    nīs tī

## THE PERSONAL EXPERIENCE OF GRASSHOPPER

ʼas ts'a gūs t'ī ge    xa nī    yī k'ai ye    ɛ̃s ka ka    na ka gī gī ca  
 dji nīs    ɛ̃i wa t'ī ge    da nī    ɛ̃l Lil la    mīL    xa yīs ts'it  
 dī sis tēit    t'ī gī    xa gū yīs sa ʼda    da nī    Lil la    ɛ̃i nīs t'ū  
 ɛ̃i da    tēal dī ʼa    ɛ̃l Lil la    sī na gīs ʼin nī    Lil la    dīs ts'it  
 10 nīs t'a sis xal    cī jātē dja    za nī    na cī ts'it    xa nī ī  
 dja na da    ta sī ts'a la    sī nī ī    na cī ts'ī dīs tī la    sī wūs  
 dlit da    sa    dī tī    kū na sī ts'ī gīs tī  
       La dī na Lin ne    ɛ̃s tū dī    yī k'ai ye    na dī sis sa  
 ma na nīs La tī    ɛ̃i nīs t'ū    mī nin na    ɛ̃s tē ga    na mī cīc tē'a  
 15 yī gūs t'ī ga    dī gī    xa nī ɛ̃i    nī na La    na tsī dīs L'a  
 ɛ̃i t'a na gīs djātē    mīL    na dīs sis tsit    ɛ̃i wa t'ī ge  
 ʼas t'a gūs dlat    ma ga    sīs La tī    sīL dīs tsit    ʼa t'ī ge gūs t'ī ga  
 sī yī ga    yī Lat    yīs Lī    ɛ̃l Lil la    nīs t'a sis xal    ɛ̃s Lī  
 zīs gī    na gīs ts'it dī    nī na sis dja    sī dan na ɛ̃i    nīs k'a  
 20 gō ga    nī kai la    xan nas tī hī    nī dza    ʼa ka sū gū  
 xa na gīs tē'ūl    gūt L'is    ta dī nīs dū La    ʼa t'ī ga xa  
 dū zīs sis gī    sa ga    na tsī dīs L'a  
       xa nī    tē'ī ga ta sī    mī zit da    ʼa tē'ī nī sis tī    nas ɛ̃i  
 mī ta    na gī dīs t'īc    nī dza    La ka za tēū    gū ga nī tēa wū'  
 25 yīs ɛ̃i wa t'ī    mī tsa nī ga    ɛ̃s t'ī ga    cīs tē'a    ɛ̃i wa t'ī ge  
 nīs tī    ī t'a na gīs djātē    tēit t'ī ge    ma ga    na cīc ca  
 ɛ̃i wa t'ī    nas ʼin ne    nī dza    ɛ̃i k'a lin ne    ɛ̃l Lil la    t'ī gī  
 xa nī    māk ka    na Lil la    ɛ̃i wa t'ī gī    sī ts'ī    ts'a L'əl gū  
 yīs ɛ̃i    sa ga    na gī L'a dī    zas gīn nī    gī ɛ̃i    ɛ̃i wa t'ī gī  
 30 has sīs nī    xa nī    tē'as ts'it tī    zīs sis gīl la    na ʼa nən na  
 nī tē'ō na    yī ka    na gū nīc cī la    mī cī tē'ū zī ka la ca  
 īc tē'ī nī cī la  
       ɛ̃i tēi    yī ga    xan nī    na zit gū    yīs ɛ̃i    dī tēi  
 mī na da    ʼa ka gī cī ca    mās    xa gīs ʼā    mī dlat da    ma ga  
 35 dī nīs tsit    na ts'it dī    mī tēa nīs La    mī tēa    kū nai gīs La  
 t'ī gī    gīs tsāt    yū wa    nīL ga    ha cī dī sī na    xa nī  
 ka dī dī sī ga    dī da ga    tēi tē'a    ɛ̃i cī tēūt    sī ts'it da ʼ  
 sis tēūz dī    gū wa    nī nən nī sūt    La sī mī nīs tsīL    ʼat'ī ge

Arrow with his back through I shot. In quiver nine arrows all with I shot. They were gone. Not he died. He was holy. Where he sat gun his hand from I-caught hold. With it on his back I threw him. Then right off on the ground he lay.

#### THE PERSONAL EXPERIENCES OF GRASSHOPPER

The very first buffalo bull young men were teasing daytime. Then gun with then I ran out. I chased it. Then when I came near gun with I shot it. Its tail sticking up with, staring at me with it charged me. It threw me in the air. My senseless body only fell. The-buffalo already was dead. Me they carried home. My-leg its blood for me flowed. They carried me in.

Another time I shoot bull I chased again. When I-overtook him I shot. Its back right in I shot him down. Just then this buffalo got up. He ran again. I loaded when I ran after him. Then he stopped. By him I ran. He charged me. Just then against me he ran. Horse with he threw me in the air. Horse he killed. When I fell I got up. My gun ground in it was sticking. I tried-to pull it up then finally I pulled it up. Dirt filled it because of that I did not kill it. From me it ran away.

Buffalo were in a herd. In front of them I hid. I-looked at them. Among them I looked around when large one, the largest I saw. Then its heart exactly I shot. Then it lay down. I loaded again. Then by it I walked. Then I looked then male with then buffalo female with. Then to me one coming I saw. To me when he came what I had killed he saw. Then he said to me, "Buffalo wonderful you have killed." Than us older ones about it tell stories. Hermaphrodite is that way.

Tree under buffalo standing I saw. Tree above it I went up. Knife I took out. Middle of its back in it I stabbed. When it fell I cut it open. Its entrails I took out. Then I ate them. That way on foot we ran Buffalo we chased. Calf small I caught. My blanket

na sis 'aL ta di sis ge si gis La ga ni na nis gi ni t'i ge  
 kũ ts'i gi la t'i gi 'a ka ts'i gi la  
 teis dũ na t'a gũ mi t'a ga na di gi ki mi ts'i  
 tag ga ni ca ta kas giz ni lan ni gis gã kũ Lil la  
 5 sis t'a 'a t'i gi gis tsat

na dis sis sa di xa ni mak ka ka na gis lat 'a ki yi  
 yis t'an ne mi ga nis si mi nas ka gis Lil di 'is Li  
 yi ga tei ga teut 'i wa t'i gi 'is Li L'a ts'i ta gũ dis xal  
 dũ na gis ts'it 'a gũ dis ts'ũ la ga 'i nãg gas kãts 'i ni dza  
 10 xa ni 'i na ts'it mi da' ts'i di k'az gũ yis 'i 'is Li 'i  
 k'a na gi ca mi tea ni xa gi t'i la 'is Li 'i ta si tsa  
 La di sas k'a da 'in ni tsis ka 'a t'i gi xa ni ts'i  
 gi sa di di t'an ne mi ts'it da 'i Lil la 'a La si tan  
 xa ni ti 'i dis dãl 'i wa t'i mi ka na gi lat mi ta  
 15 na gi dis t'ic 'a t'i gi gũs t'i ga di dag ga Li di tsõ wũ'  
 'as t'a yis 'i ma nan nis La ti 'i nis t'ũ na mi cis tc'a  
 'a t'i gi ma ga sis La 'i t'an na gis djãtc 'is dũ wũ  
 xa ni nis tsin ne na xũs gi 'i wa t'i gi 'a ki zi sis gin ne  
 na sis 'oL di dag ga gis dla i na tũ teũ 'i gis dla  
 20 ta din na ts'is gũ sa ga ts'in na 'a 'i wa nis tin ni teũ  
 djũ sa ga ts'in na 'a min na  
 dij na 'i sa Li 'i da t'ũ ts'i di sa da Li 'is tsis di ta  
 mis da ka di da ts'i Li ka za 'il kai ye na ts'i tei gil lãL  
 si ki 'i tea na nis teũz da ni 'i Lil la mi ni ts'i  
 25 di sis La min ni ts'i tei yi ga sis ti sa 'in ni 'aL t'aL ga  
 sil dis sit di 'is teis di yi ka di gi yis tsũk di yi ka  
 na tsin nis La di gũs t'i ga sa na La si ka di  
 da na na gũ di gis La sa ga nis da 'i na mi di  
 gi sis tsũ sa na diL La di mi ni si di ka di ni ci ca  
 30 mi ts'a ga 'a na L'a gi gi caL si ka di gũs t'i ga mi ts'i  
 da k'a 'i nis t'ũ ma ga yi gis t'ũ la mi ga na teũ  
 ta ni cic dja di nãs Li na nis t'ũ di zi sis gi na 'il ts'i  
 da t'i ge L'ũ k'a 'i di sis san ni 'i wa 'a t'i ge  
 da ni 'i Lil la 'i di sis sã 'i di sis sã di mãs 'i Lil la  
 35 sis sis gi 'i wa t'i gi mi ni gi 'a ki na si dli' na si 'aL

where it lay from there I dragged it. I clubbed it. Then I cut it open. I put it on my back. My tipi I brought it back. Then they carried it in. Then they put it in a pot.

Ducks not flying, their feathers fallen off after them I went in the water. They swam ashore. Many I killed. Fire with I roasted them. Then I ate them.

When I was hunting again buffalo female I ran after. Two arrows in it stuck in. Beside it when running horse under it put its head. Then horse hips it lifted. It did not fall. Tearing sound I heard. I looked around when buffalo fell. Its horn red I saw. Horse I got off. Its intestines were sticking out. The horse died.

Once winter time there Berry river there for-buffalo we went. Eagle his blanket with we went. Buffalo ran. Then after them we ran. Among them I looked around. Right there calf dog yellow like I saw. To it I ran up. I shot it. I shot it down. Then by it I ran. I loaded again. Another buffalo fat I killed. Then two which I had killed I butchered. Calf its skin for it whisky skins full to me he gave and large bottle too to me he gave for it.

Four persons we were we to shoot toward we started. Valley its edge we were sitting. One bull to us was running. My coat I put on the ground. Gun with toward its face I ran. Toward it on my belly I lay down. When it saw me it stopped. When it charged me valley its bottom when I ran down the bottom when I ran down just then it caught up to me. When it hooked at me I jumped to one side. By me it hooked. Again from it I ran. To me when it ran facing it I turned around. From it backward I walked. When it hooked me just then its head on it I shot. By it I shot. Its shoulder I smashed.<sup>8</sup> I saved myself. When I shot again I killed it. It fell.

Here prairie I went to hunt. And then gun with I chased them. When I chased them knife with I killed it. And by it two we were, we butchered it. Our horses on

<sup>8</sup> I shot to pieces (?).

'is lək ka k'a ta si ga na ts'ai yi ka ts'i ni na ni la  
 ts'i ka na gi gi la kū ts'i gi la yi wa t'i gi mi gi na'  
 si ni ts'i da 'is li mi ka di di ci ca mi tca di ka di  
 tca siz ga tsis ka gū ts'il la di mi na mi na 'i di tei  
 5 'a la di na ts'i di ni ha li tsa 'i yi na kū gi dūz  
 'i wa t'i gi sis taz di yi wūs 'a la di yis L'ū yi wa t'i  
 gū ni nā ni ma 'a ts'e li ki za xa gi la mi tca di kat di  
 li di gi ha li tsa 'i di tan ni ts'a kū la mis teis k'a  
 gū di gal gū xa gū yis t'as mi k'a di tei ta si sūz gwa gū la  
 10 gū L'ū wa yi k'a tas dla kū gū da tein na 'a 'a gū la di  
 ma ga zin na teis i xa gi tin ni' 'i na yi tas tūc  
 mi zi kak k'a 'a lin ni xa gi tsan gwa gūc 'ic di t'an ni  
 ma ga na t'a hi t'i gi 'i di di dlūj ka da ga sūL li  
 t'i ge mi wūs gi t'in ni t'i gi 'a la gis teūte kū gi cūz  
 15 la di lū kwī yi ga kū gi la  
 li di cas di 'i na gū teū gū ka ci ca 'i sis ts'i ki  
 ni dza kwī yi ga ma ga zin na mis ka ka na giL a  
 'i da tei ni cūL dja t'i gi kū gis dūz mi na ga kū  
 'as t'a ka gi nis sis 'az 'a t'i gi xa na ts'i gis la si tsit da  
 20 min na 'a la din nis teūz si mǝz za 'i lil la min na da  
 sin nis ka gō ga nis t'az has tin na mi zi ga din nis ts'i  
 sit tsit da xa na gis teūz 'a t'i gi xa diL ga 'a t'i gi  
 ta zit tsa ha ts'i giL ti gū mis ka ka gū ts'an ni xa gis la  
 si ga na ka tūn di 'i di sis sa di xa ni ta gis lil la  
 25 gū ts' i ga 'is li siL lil la i na' kū di gi t'ats si  
 siL lil la na ts'it si ga na ts'in na ts'in nis k'a kū da gi kai  
 mi dlit da xa da gi k'at 'i wa t'i ge 'i da dji' gū ci cək'  
 na si ts'it di sis til la

we loaded it. To our wives we brought it back. Women unloaded it. They brought it in. Then we ate it.

I boy I was after him I went. Its tail broad, beaver creek where it is small its hole. Its hole stick we closed. This old man hole crawled in. Then where they were asleep their legs he tied together. Then ten besides one he took out, its tail broad.

The same old man eagles pulled in. Bank top of hill circular place he cut out. On it wood close together he made it. Grass on it he put. Place to sit in when he had made wolf skin he took out. The hole he put it on. Its armpit meat sticking out he made. Eagle to it it flew. Then it pecked it back he drew it, then its legs he could see then he held them together. He pulled it in. Once nine he pulled in.

When I was walking about hole large I came to. I was listening then inside wolf its children were-making a noise. I took off my clothes then I crept in. Its eyes fire like I saw. Then I hurried out. My blanket its hole I blocked. My knife with above it on the ground I cut a hole. While lying down in its back I stuck my knife. My blanket I took out. Then while it walked out there it died its head sticking out. Its children six I took out.

My arm when it broke I was hunting. Among buffalo I was running just then horse with me hole stepped in. With me he fell. My arm bone in the ground it stuck in. Its blood flowed out. Then I lost my senses. They carried me home.









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SERIAN, TEQUISTLATECAN, AND HOKAN

BY  
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Daniel Garrison Brinton many years ago affirmed a genetic connection between the Seri<sup>1</sup> language of Sonora, the Chontal or Tequistlatecan<sup>2</sup> idiom of Oaxaca, and the Yuman group of dialects, which Dr. R. B. Dixon and I recently united with six other Californian languages into the new Hokan family.<sup>3</sup> Assuming the validity of Hokan as a single group, Seri and Chontal would therefore be members of it if Brinton's assertion of their relationship with Yuman is true. As his contentions have not been generally accepted, the present essay is a re-examination of the evidence.

Brinton's union of Tequistlatecan and Yuman has hardly elicited a reaction. It must be admitted that the twenty-three Chontal words available to him were not enough for very convincing effect. The unsatisfactory quality of his word parallels was also in part due to the poor material accessible to him from the Yuman group of dialects. The enormous geographical distance between the two languages was a further obstacle to acceptance of his findings. The Yuman idioms do not reach farther east than longitude 112° nor farther south than latitude 31½° in Sonora or 26° in the peninsula of Lower California. Tequistlatecan is spoken on the Pacific Coast in the vicinity of longitude 96° and latitude 16°, near the isthmus of Tehuantepec. Brinton's remarks have therefore been ignored by nearly all of his

<sup>1</sup> *The American Race* (1901), 110, 113, 335.

<sup>2</sup> *Ibid.*, 112, 148.

<sup>3</sup> *Science*, n. s., xxxvii, 225, 1913; *American Anthropologist*, n. s., xv, 647-655, 1913.

colleagues and successors. Thomas and Swanton in their map of linguistic stocks of Mexico<sup>4</sup> retain Chontal as an independent family under Brinton's provisional name Tequistlatecan.

Seri has provoked one discussion. In a linguistic appendix to the late W J McGee's famous monograph on the Seri, Mr. J. N. B. Hewitt has compared in detail a considerable number of Seri and Yuman stems, with consistently negative findings as to original similarity. A careful examination of this report at the time of its publication, however, left me with a strong belief that genetic relationship existed. Several American anthropologists have expressed to me the same conviction. Mr. Hewitt's conclusion seemed not unnatural in view of his affectionate friendship with Dr. McGee, who was strongly attached to the impression that the Seri were in every respect a thoroughly unique and isolated people; and also because Mr. Hewitt and Dr. Brinton were scientific antagonists in other fields. These early misgivings as to the distinctness of Seri and Yuman were fortified by the change of point of view which I underwent in the course of my recent collaboration with Dr. Dixon, which resulted in the unexpected union of Yuman with so many other languages. The geographical barrier is also wanting for the Seri. Their habitat, between parallels 28° and 30° and longitude 111° and the Gulf of California, is almost in contact with the territory of the Cocopa and directly across the narrow strait from the Cochimi, both admitted Yuman tribes.

For Tequistlatecan there is available Francisco Belmar's *Estudio de El Chontal* (Oaxaca, 1900). For Seri there is, besides the various vocabularies drawn on and cited by Mr. Hewitt, a compilation by F. Hernandez in his *Guerra del Yaqui*. These two works together provide vocabularies by or from McGee, Pinart, Loustanou, Peñafiel, Tenochio, and Bartlett. The sounds of Seri evidently gave the European ears of these hearers much trouble. A process of averaging, however, allows a probably fair reconstruction of the spoken sounds. These have been expressed in an orthography used in my rendition of the Yuman Mohave dialect. In essentials this is the alphabet used by professional American ethnologists. Certain details are explained below.

<sup>4</sup> Indian Languages of Mexico and Central America, Bureau of American Ethnology, Bulletin 44, 1911.

Fortunately both Spanish and English spellings were employed by the six recorders of Seri, and they included native Frenchmen. The averages struck from their variant forms are therefore nearer the truth than if all six had been of one nationality. To represent the Yuman group of languages, Mohave was chosen because of personal familiarity.<sup>5</sup> I have not heard other Yuman idioms except Diegueño, and not much of that. The attempt to combine the rendition by other workers of other Yuman dialects with the author's spelling of Mohave would have been difficult, and left many doubtful points. For that matter, just because Mohave is one dialect of many, and apparently a somewhat specialized one, any similarity between it and Chontal or Seri that may be accepted as established will only be reinforced when satisfactory comparisons with the entire Yuman group are instituted. Señor Belmar's orthography has been somewhat altered, but not materially, to conform to that used for Seri and Mohave. The comparative table of words from the three languages has been enlarged by selections of parallel forms from the Hokan languages of California other than Yuman: Esselen, Pomo, Yana, Shastan, Chimariko, and Karok.<sup>6</sup>

In detail the orthography needs little elucidation. Following American usage, *c* stands for sounds of the *sh*-type; *tc* therefore equals English *ch*; *x* is a surd palatal fricative, *l* a surd *l*; and *θ* and *δ* are surd and sonant interdental fricatives derived in Mohave from original *s* and *y*. Chontal *ng* and *gh*, and Seri *gh*, are as written in the original sources. Mohave *ly* and *ny* are simple sounds, palatalized; and *kw* and *xw* in all the languages referred to are probably simple labializations of palatals. The apostrophe indicates the glottal stop, except after stopped consonants, of which it denotes the glottalization. Mohave *v* is bilabial: the same quality appears to attach to *f* and *v* in the other Californian Hokan languages, and may be looked for in Seri and Chontal.

<sup>5</sup> Present series, *x*, 45-96, 1911.

<sup>6</sup> For Esselen, see present series, *ii*, 29-80, 1904; for Pomo, S. A. Barrett, *ibid.*, *vi*, 1-332, 1908; for Chimariko, R. B. Dixon, *ibid.*, *v*, 293-380, 1910. The Shastan material is Dr. Dixon's; it covers Shasta, Achomawi, Atsugewi, and minor dialects. Yana and Karok are mainly from manuscript notes by myself; there is published material on these languages in the present series, *ix*, 1-235, 1910 (by Dr. E. Sapir), and *ix*, 273-435, 1911.

Even without discussion, this comparative table may be admitted to make the case for the relationship of Chontal and Seri to Hoka at least plausible. It is hoped that the following sound equivalences, many of which occur repeatedly, will convince even the skeptical. To save space and detail, the words adduced are not written out, but referred to by the numbers prefixed to them in the table. Unless otherwise noted, references are always in the order: Chontal, Seri, Mohave.

The correspondence  $m:m:m$  is found in words number 2, 3, and 6. In 4, 21, 27, Chontal and Mohave retain  $m$ , but Seri has  $p$ ,  $v$ , or nothing. Seri  $v$ :Mohave  $m$  in 29 probably belongs to the same class: a corresponding Chontal stem has not been found. The formula  $f:p:m$  occurs in 9 and again in 23, and therefore is probably regular;  $p:m:m$  is found only in 14. Five of these ten Mohave stems containing  $m$  have been traced in other Hoka languages: the corresponding forms all show  $m$ . The same is true of 17,  $m:m:w$ ,  $m$  in Californian Hoka, which throws light on the origin of the rather uncommon and hitherto unexplained  $w$  of Mohave.<sup>7</sup>

Chontal  $f$  does not always correspond to Mohave  $m$ : 33 shows the equivalence  $f:x:p$ . This Chontal-Seri correspondence  $f:x$  is corroborated by Seri-Mohave  $f:h$  in number 15—the fricative character is retained, but the point of articulation changed. Other cases of correspondence between labials and palatals will be encountered; the dentals and alveolars seem to shift less frequently. The obvious course of a change from palatal to labial or reverse is through labialized palatals, especially if the palatal articulation is distinctly posterior. But it is not certain that the  $f:x:p$  of 33 represents original  $f:x:f < f:f:f$ , for Esselen agrees with Mohave in this stem in showing  $p$ .

Unvarying  $p$  occurs in 5 and 7. In the former of these,  $p$  or  $b$  persists in the Californian cognates.

Mohave  $v$  occurs in seven of the stems available for comparison. In these it shows a variety of correspondences:

<sup>7</sup> Present series, xi, 182, 1914.

<i>English</i>	<i>Chontal</i>
1 Water	a-ha
2 Earth	a-mats
3 Sky	e-maa
4 Leg	i-mits <sup>1</sup>
5 Tongue	i-paL
6 Sleep	cmal
7 Hot	e-paL
8 Rain	u-kwi
9 White	(niga)-f
10 Woman	a-kano
11 Old	a-kwe
12 Salt	oghue <sup>2</sup>
13 Sing	cow <sup>3</sup>
14 Ash	a-pi
15 Nose	
16 Blood	a-was
17 Heart	o-m-caxu
18 House	a-huL
19 Stone	a-pik
20 Wood	eke
21 Star	camna
22 Two	o-ke
23 Three	a-fan
24 Drink	cwa
25 Fire	u-nga
26 Eye	i-piwa
27 Ear	i-cmata
28 Hand	
29 Child	
30 Bone	
31 Dog	
32 Tobacco	a-me
33 Arrow	on-fants
34 Large	kweka
35 Foot	i-tungu <sup>4</sup>

<sup>1</sup> Foot.

<sup>2</sup> Leg or foot.

<sup>3</sup> Cloud. Identity of the stem  
ekwi, rain.

<sup>4</sup> Old man.



18	h : k : v	California : w, (m)
22	k : k : v	California : x, h, k
34	k : k : v	California : b, m
19	p : s : v	California : b, f, ', -
32	m : p : v	California : w, h, hp
25	ng : m : v	California : m, p, h
35	ng : v	
13	w : v	California : m, n, -

The remarkable correspondence  $k:k:v$  seems reasonably established, in spite of the fact that two of the Hokan cognates have labials and one palatals. The same may be said of Chontal  $ng$  as equated to Seri and Mohave  $v$ . This correspondence is corroborated by the occurrence of both labials and palatals in the Californian cognates. See in this connection also 32. In fact, the entire  $v$  group evidences the close relationship of labials and palatals throughout Hokan. Number 13 is uncertain, the Chontal  $w$  being only the present writer's hypothetical rendering of several variants in the original.

Other instances of Chontal  $w$  occur in 16, where the formula is  $w:v:hw$ , with consistent  $x$  in the Californian languages, and in 24 and 26, where none of the other tongues show a correspondence and the Chontal sound may be of parasitic or vocalic origin.

The palatal stop  $k$  is found less frequently in other relations than in that with  $v$ . Number 30 has  $k$  common to Seri and Mohave. Number 10 shows the formula  $k:k:\theta$ . Mohave  $\theta$  is from Diegueño<sup>8</sup> and general Yuman  $s$ ; in this stem other Hokan words also have dentals. The equivalence is, however, probable on account of an established  $s-h-k$  shift in Hokan.<sup>9</sup>

Chontal  $kw$ : Mohave  $kw$  occurs in 8 and 11; in the former case the equivalent is  $pk$  in Seri,  $tc$  in several Californian languages.

For  $h:x:h$  see 1 and 31; for  $k:h:'$ , 20; the Seri-Mohave correspondence  $f:h$  in 15 has already been mentioned. Mohave  $h$  is produced with some stricture;<sup>10</sup> the difference between it and Seri  $x$  ("jj", "chk") is therefore probably not great.

$S$ , with which I have included  $c$ , is in many cases persistent throughout Hokan: see 6, 13, 21, 24, 27. Mohave  $\theta$  is shown

<sup>8</sup> Present series, XI, 179, 1914.

<sup>9</sup> Am. Anthropologist, n. s., XV, 651, 1914.

<sup>10</sup> Present series, X, 62, 1911; XI, 179, 1914.



by its Diegueño equivalent *s* to be a recent mutation, and the occasional Californian variants *ts*, *tc*, *h*, are what might be anticipated in a large array of diversified dialects.

*T* is not very common in the stems used. The equation *s* : *t* : *t*, Californian *t*, *d*, is found in 16; *t* : *t* : *ʔ* in 35; *gh* : *t* : *θ*, Diegueño *s*, Californian *k* or *t*, in 12. The variation of the Californian languages between palatal and dental in this last word makes the Chontal-Seri-Mohave equivalence practically certain.

Two of the compared Mohave words, 2 and 31, contain the alveolar-prepalatal stop *ʈ*,<sup>11</sup> which occurs also in Diegueño. In place of this, Chontal shows *ts* in one case, Seri once *t* and once *s*. It is not impossible that *ts* and *t* may here stand for a sound similar to *ʈ*, the rendition of which has puzzled recorders in several Hokan and non-Hokan languages of California.

For laterals there is a well defined equivalence *L* : *L* : *ly* in 5, 7, 27, 28, varied only once by the apparent substitution of *ts* in Chontal. This correspondence is the more pregnant because Diegueño, and apparently the Yuman dialects in general, agree with Chontal and Seri in retaining surd *L* where specialized Mohave has acquired sonant palatalized *ly*. The Californian Hokan languages in the same stems have *l*, or its variants *r*, *n*, or *-*.

Mohave trilled *r* in 11, 13, 29 is without Chontal or Seri equivalent, except that one orthography of Seri 29 shows a final *d*, perhaps written for a sonant fricative corresponding to *r*.

The vowels of the three languages agree even more consistently than their consonants. *A* is unchanged in 1, 2, 3, 16 (twice), 18, 19, 25, 30, 31, 33. The Californian languages also show *a* in the great majority of their forms for these stems. The equivalence *a* : *-* : *a* occurs in 1, 2, 5, 6, 31. Mohave and Diegueño unaccented vowels are often very light, so as to be easily missed by an observer unfamiliar with the languages; but this hardly explains the situation in Seri, as in all of the above five cases the missing Seri vowel corresponds to the most markedly accented one in the equivalent Mohave word.

Fewer instances appear of the agreement *a* : *o* : *a*, namely, numbers 17, 27, 28, 34; but the correspondence is equally posi-

<sup>11</sup> Present series, x, 57, 1911.

tive. Seri *o* in these cases is clearly a special formation, as the Californian languages regularly show *a*. In the first three of the four words the equivalent Mohave *a* is accented. Chontal *o* and *u*, so far as comparable at all, correspond to Mohave *a*, Seri and the Californian languages showing less regular forms: 9, 10, 12, 18, 25.

Chontal has *a* where Seri and Mohave show *a*, *e*, or *i* in 3, 7, 10, 14, 24. Californian analogues vary between *a* and *i*. This appears to be an instance of assimilation in Chontal of originally distinct vowels.

Chontal *e* seems reducible to two types: *e:e:a* in 20, 29, 32, and *e:i(?)* in 7, 12, 22. Californian analogues are so variable that several original vowels may be involved.

Number 4 shows *i:e:e*, with which I am inclined to unite the *i:a:e* of 8, on account of the Californian equivalents *i* and *e*. More frequently, however, *i* is unchanged in the three southern languages, as in 4, 5, 26, and, for Seri and Mohave at least, in 15, 28, 30. In every instance at least some of the California dialects also show *i*, but others do not; it is worthy of note that in 5, 15, and 26 apparent metathesis of vowels occurs. In 6 the formula *i:i:i* is modified by loss of vowel in Chontal and in 19 in Seri. The lost Chontal vowel is unaccented; that of Seri corresponds, like lost Seri *a*, to an accented vowel in Mohave.

These correspondences cover fully three-fourths of all comparable vowels in the list.

The Chontal initial vowels separated in the list by a hyphen are included by Señor Belmar in a series of noun prefixes indicative of number. Thus he writes *le-maa*, sky, as if *le* were the morphological element and *maa* the noun stem. The equivalences of these "prefix" vowels with the initial vowels of the stem in the Seri and Mohave words are, however, so close that it is clear they are not part of the prefix at all. The division should be *l-ema*. In the same way, under "Other Hoka Languages" I have written Chimariko *i-pen*, *u-sot*, *i-sam*, *i-ʔa*. When Dr. Dixon studied Chimariko as an independent<sup>12</sup> language, these initial sounds seemed to be connecting vowels of the possessive prefixes of body part terms. But it is clear that here also the

<sup>12</sup> Present series, v, 326, note 12, 1910.

division should be h-ipen, his tongue, not hi-pen. At one time it seemed possible to Dr. Dixon<sup>13</sup> and myself<sup>14</sup> that such forms were all from monosyllabic radicals; but a comparison of Chontal ipaL, Seri ipL, Mohave ipalya, Chimariko ipen, Pomo hiba, Shastan ipli, proves the initial i to be part either of the original stem or of a prefix which became definitely associated with the stem before the diverse and long separated Hokan languages became detached from one another.

Apart from correspondences of specific sounds, one general phonetic fact is clear about Hokan: fricatives, both surd and sonant, and in labial as well as in dental and palatal articulation, are exceptionally well developed. The contrast on this point is marked with Penutian, which is as bare of fricatives as it is at present the fashion to depict original Indo-European speech to have been, and with Uto-Azetaken, where stops also largely outnumber fricatives. Labial fricatives have long been noted as excessively uncommon in American languages; yet within the limits of the Hokan group *f* occurs in Chontal, Seri, Esselen, Pomo, and Karok, and *v* in Seri, Mohave, and Karok. It is not to be argued that this *f* and *v* correspond directly in the several languages or represent survivals of original *f* and *v*. In fact, the reverse is the case. Mohave *v* equates with Seri-Chontal *k* and north Hokan *m*, *w*, *b*; Chontal *f* is a development from labial stops or nasals, Seri at least sometimes from palatal fricatives. But the tendency for fricatives to appear is evidently deep-rooted in the family, and must be regarded as a significant character. This is confirmed by the fact that those languages, such as Yana and some of the Pomo dialects, which are weakest in fricatives, are the ones in which sonant stops are most pronounced. The theory of an underlying impulse toward fricatives would also explain the development of two such closely related and rare sounds as Mohave *θ* and *δ* from such unrelated ones as *s* and *y*. I feel very strongly that it is impossible to institute even slight comparisons among the Hokan languages as a group, once this impulse has been perceived, without attaining to an ineradicable conviction of their original unity.

<sup>13</sup> *Am. Anthropologist*, n. s., xv, 651, 1913.

<sup>14</sup> *Present series*, xi, 183, 1914.

It may be worth while to add a few general Hokan parallels for Chontal and Seri for which no direct equivalents are known in Mohave.

*Night*: Seri, amok; Chimariko, hime, himok-ni; Achomawi Shastan, mahektca; Esselen tumas; Pomo, duwe.

*Sun*: Seri, sax (moon: isax, *sic*); Esselen, asi; Chimariko, asi, day; Atsugewi Shastan, asiyi, day.

*Navel*: Chontal, a-tu; Shasta, edau; Achomawi Shastan, a'lu; Atsugewi Shastan, tsup'-; Chimariko, o-napu; Yana, -lak'i.

*Person*: Chontal, acans; Shasta, ic; Pomo, atca, teate; Chimariko, itei, man; Yana 'ihsi, man; Esselen, exi-.

I trust that this presentation will both establish the original unity of Tequistlatecan, Serian, and Yuman, and help to allay the doubts of those who may have remained unconvinced by the announcement of Dr. Dixon and myself that seven Californian languages heretofore considered distinct could be united into the one family which we denominated Hokan. No one is better aware than we of the slenderness of the evidence as yet presented in support of our assertion; but our first serious suspicions of relationship are only recent, and each further hesitating inquiry into the question has thrown open such vistas that the material has accumulated faster than we could handle it, and a delay in our promised proof has been inevitable. The present little treatise may reveal some glimpses of the possibilities before us.

There was a time when the merging of one of the accepted North American linguistic stocks into another was a rare and notable event in American anthropology, and the simultaneous wiping out of two was not heard of. That time is past. The Hokan family as here treated comprises what a few years since were regarded as nine families. That two others, Chumash and Salinan, might be includable was suggested a year ago by Dr. Dixon and myself. Since then Mr. J. P. Harrington has affirmed the genetic unity of Chumash and Yuman.<sup>15</sup> As his studies in recent years have made him the best informed authority on both languages, his verdict must at least be taken seriously. If Chumash is Yuman, it is Hokan; and as Salinan will almost certainly

<sup>15</sup> *American Anthropologist*, n. s., xv, 716, 1913.

go where Chumash goes, eleven<sup>16</sup> former families are now ranged under the banner of one. The new Penutian family takes care of five other former stocks. Two are eliminated by Dr. Sapir's daring but unquestionably valid recognition of Wiyot and Yurok as Algonkin. The same investigator is also giving proof, sufficiently critical and detailed to satisfy the most pedantic, of the relationship of Shoshonean, Piman, and Nahuatlan, as first affirmed by Brinton, and accepted by the late Dr. Chamberlain and myself. Dr. Swanton has shown Natchezan to be Muskogean. His comparison of Athabaskan, Haida, and Tlingit, on a suggestion of similarity long ago made by Dr. Boas, is inconclusive, but in the light of events elsewhere forces the suspicion that a re-examination may result in a positive establishment of relationship here also. The same may be said of Dr. Boas' other demonstration of resemblance of morphological type between Salishan, Wakashan, and Chemakuan. Still other unions and inclusions will undoubtedly be made. Hokan now stretches from southern Mexico to southern Oregon. Inquiry in the complex linguistic field of the latter state and of the coast to the north may result in determinations at the very first touch.

We may accordingly be confident that the language map of North America will be thoroughly recolored in a few years. For a long period the Powell-Henshaw list of 58 stocks in Canada and the United States stood almost unaltered. The convenience of this first exhaustive and entirely definite classification was so great that it was soon looked upon as fundamental, and the incentive to tamper with it was lost. The revision of the map in the *Handbook of American Indians* in 1907 reduced the 58 stocks only to 56. With the additional families formulated in 1911 by Thomas and Swanton for Mexico and Central America, the total for the continent was 82. In a few years this has shrunk to 64, with most of the field still lying under the old ban. At a chance gathering of anthropologists in Washington a few months since, predictions were made, informally, it is true, and in part perhaps not very seriously, but with an undercurrent of conviction, as to the number of families that would be generally

<sup>16</sup> Really twelve, as Shasta and Achomawi-Atsugewi (Palaihnihan) were long considered distinct and only recently connected by Dr. Dixon, *ibid.*, n. s., vii, 213, 1905.

recognized in ten years. The estimates ranged from 15 to 30. Surely anthropologists may begin to realize that in these matters a new order is upon them, merely through the progress of knowledge and without any abandonment of the safely conservative principles of the past.

It has been suggested to me that while there is probably some underlying truth in most of the recent mergings of stocks, the kind of relationship involved may be of a different sort from what has heretofore been regarded as the relationship binding together the members of a linguistic family. I wish to express my absolute opposition to this attitude. If Chontal and Seri are not related just as thoroughly and just as completely to Yuman and Pomo and Chimariko as Omaha is to Dakota or as Cherokee is to Iroquois or as Arapaho is to Delaware, they are not related at all, and the present essay has entirely failed of its purpose. I recognize only one criterion of relationship: reasonably demonstrable genetic unity. Either two languages can be seen to have been originally one, or they cannot be seen to have been one. The evidence may be of such kind and quantity as to leave us in doubt for a time; but there can be no such thing as half-relationship. Philosophically, the concept of the linguistic family may be of little moment or validity, like the concept of species in biology; but for the organization and practical control of knowledge both these categories are indispensable. And they can be of use only if they stand for something definite and if as categories they are inflexible.

It is to me a particular gratification that the outcome of this investigation re-establishes the findings of Brinton made by him on so much slighter evidence. Brinton was dogmatic beyond a doubt, and his attitudes seem at times inconsistent. But his work is permeated by a clear grasp and a lucidity of thought and expression; and these qualities are given their full value by a remarkable basic understanding, an instinctive feeling for phenomena of the human mind that has rarely been equaled in the field of ethnology or linguistics. On the points here discussed Brinton's material was nearly worthless; we must bear him the greater tribute for his power of intuitive sane insight and interpretation.

I should have liked to examine Brinton's further prognosis that the Waikuri language of the southern portion of Lower California was also Yuman. The available information on this idiom, however, all goes back to one very tenuous source, the picturesquely abusive and spirited description of Baegert. The few words contained in this do not look like Yuman or even Hokan; but they are too few and too specialized to allow of any very certain conclusions. Unless new records from Lower California can be discovered, a final judgment as to the position of Waikuri will not be possible until the comparative analysis of the Hokan languages has progressed so far that they can be successfully measured against the fragments of this obscure tongue. Pending this decision, Waikuri must be regarded as of unproved affinities and therefore held tentatively distinct.

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DICHOTOMOUS SOCIAL ORGANIZATION IN  
SOUTH CENTRAL CALIFORNIA

BY  
EDWARD WINSLOW GIFFORD

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Since 1913 the writer has been engaged in a study of the social organization of the Indians of South Central California. The first product of this study, a report on the exogamous moieties of the Central Sierra Miwok, is now in press. Following the completion of this work, the writer set out to make a preliminary investigation of other tribes to determine the geographic limits of the moiety organization. This preliminary survey, which is to be followed by careful study of each group, has not been entirely completed to date. The following brief statements summarize the data obtained, especially with reference to tribes, which, like the Miwok, are organized on the basis of dual divisions.

The survey so far shows that the area in which moieties exist extends from Amador County in the north to Kings County in the south. In the southern counties the area extends from the eastern foothills of the Coast Range on the west to the high Sierra Nevada on the east, thus embracing both plains and mountain tribes. In the north moieties have been found only in the Sierra Nevada.

Aside from the Miwok, the tribes which have been visited are the Chukchansi, the Gashowu, and the Tachi of Yokuts stock; and the North Fork Mono, the Inyo Mono, the Bridgeport Mono, the Tübatulabal, and the Kawaiisu of Shoshonean stock. Of these the Chukchansi live in Madera County north of the



San Joaquin River, the Gashowu in Fresno County south of the San Joaquin River, and the Tachi in Kings County north of Tulare Lake. Of the Shoshoneans, the North Fork Mono live in Madera County north of the San Joaquin River, adjoining the Chukchansi, but higher in the mountains and more to the east. The Inyo Mono inhabit Owens Valley, Inyo County, east of the Sierra Nevada. The Bridgeport Mono dwell in the vicinity of Bridgeport in Mono County, also east of the Sierra Nevada. The Tübatulabal occupy the Kern River region, and the Kawaiisu, who speak a dialect of Ute-Chemehuevi, inhabit the Tehachapi Mountains.

The principal facts concerning social organization among the tribes, where positive data were obtained, are as follows:

The tribes exhibiting a moiety organization are the Chukchansi, the Gashowu, and the Tachi. The North Fork Mono have, instead of indivisible moieties, two phratries composed of two clans each. The other tribes appear to have no moiety organization.

Personal names among all of the groups, with the exception of the Bridgeport Mono and possibly the Kawaiisu, are usually meaningless; at least the Indians can give no interpretations for them. Furthermore, names are transmitted, except perhaps among the Chukchansi, a child usually being named after either a living or a dead relative of the father. Frequently when an individual is named after a living relative the name is changed upon the death of the namesake. Miwok names invariably have very full meanings and are not transmitted. A majority of the Bridgeport Mono names also have meanings.

The kinship systems of the three Yokuts tribes (Chukchansi, Gashowu, and Tachi) resemble closely in application the Miwok system, which is described in detail in the forthcoming paper on Miwok moieties. The characteristic features are, first, the possession of but one term for grandchild, one for grandfather, and one for grandmother; second, the grouping of cross-cousins in two generations, one older and one younger than that of the speaker. On the other hand, the kinship system of the North Fork Mono on the western slope of the Sierra Nevada is quite unlike the Miwok and Yokuts systems. It is almost identical

with that of the Inyo Mono and the Bridgeport Mono, who live east of the Sierra Nevada. These systems are characterized by a distinct term for each of the four grandparents; furthermore, the same term is applied by the grandparent to the grandchild. Cross-cousins are classified as brothers and sisters, hence in the generation of the speaker.

The names of the moieties among the Miwok are *kikua*, or water moiety, and *tunuka*, or land moiety. The three Yokuts tribes (*Chukchansi*, *Gashownu*, and *Tachi*) examined employ the names *nutuwic* (also given as *nutuwuts*) and *toxelyuwic* for their moieties. Like the Miwok moieties, the Yokuts moieties are exogamous. A child belongs to the moiety of the father. Among the North Fork Mono also descent is paternal, but there is no rule of exogamy. A child belongs to the clan and to the phratry of the father, and may marry within his own clan or not, as he chooses.

The names of the two phratries of the North Fork Mono are *pakwihu* and *yayantci*. The *pakwihu* phratry is subdivided into two clans, *tübahinagatu* and *puzaots*. The *yayantci* phratry is composed of the two clans *dakats* and *kunugetci*.

The arbitrary division of nature into two categories, "land" and "water", is a feature of the Central Sierra Miwok moiety complex. The land side of nature is associated with the land moiety, the water side of nature with the water moiety. The water moiety (*kikua*) of the Miwok finds its analogue in the *nutuwic* or *nutuwuts* moiety of the three Yokuts tribes mentioned, and the Miwok land moiety (*tunuka*) finds its analogue in the *toxelyuwic* moiety of the Yokuts tribes. Among the Yokuts tribes certain animals are associated with each moiety, but it has not been ascertained that the whole of nature is divided and associated with the moieties as among the Miwok. In the Miwok organization the connection between moiety and animal is through the personal name, each individual being named after an animate or inanimate object. The eponym, however, is not transmitted to the descendant as a rule. Among the Yokuts tribes and the North Fork Mono, where personal names are meaningless, the connection between animal and moiety or phratry is naturally not through the personal name.

Each individual in these tribes has a "pet" or "personal totem," which is inherited from the father, and seems to have no connection with the personal name.

Among the Chukchansi the following animals are associated with the nutuwic moiety: coyote, turkey vulture, falcon, and quail. With the toxelyuwic moiety are identified the following animals: bear, eagle, raven, crow, jay, and jackrabbit. The Gashowu classify the following animals as connected with the nutuwuts moiety: coyote, turkey vulture, and hawk (species?). With the toxelyuwic moiety the following animals are connected: eagle, wildcat, and fox. Among the Tachi the largest list of moiety animals was obtained. For the nutuwuts moiety the animals are coyote, prairie falcon, ground owl, great horned owl, skunk, seal, and several other species of hawks and owls. The animals of the toxelyuwic moiety are eagle, crow, roadrunner, killdeer, fishhawk, raven, antelope, and beaver. Among the North Fork Mono matters are not so sharply defined. The privilege of changing one's phratry and the custom of capturing young birds, which are kept as real pets, have added to the complexity, so that an animal is associated sometimes with a member of one phratry, sometimes with a member of the other.

The North Fork Mono clans appear to be functionless. Ceremonial functions seem to be centered in the phratries, just as similar functions are in the Miwok and Yokuts moieties. Among the Miwok, the Yokuts, and the North Fork Mono, reciprocity on the part of the dual divisions in funeral and mourning ceremonies is the rule, and when games are played one division opposes the other. Among the Yokuts tribes an eagle ceremony, which is a moiety affair, was held. There seems reason to believe that similar ceremonies were perhaps held for other moiety animals. The ceremony was in the nature of a purchase or redemption of a moiety animal from the opposite moiety.

Ceremonial paints distinctive of each moiety were used by the Yokuts tribes and the Southern Sierra Miwok, but have not so far been found among the North Fork Mono.

Dual chieftainship, that is, a chief for each moiety or phratry, was found among the Tachi Yokuts and the North Fork Mono.

Doubtless other tribes will prove to have a similar division of the chieftainship.

An organization, which will perhaps prove to be on a moiety basis, is reported by Dr. J. Alden Mason among the Salinan Indians of Monterey County. A bear and a deer "totem" are mentioned.<sup>1</sup> Among the Central Sierra Miwok the bear is the chief animal of the land moiety, the deer of the water moiety. It seems quite probable that a continuation of Dr. Mason's investigations among the Salinan will show that the bear and deer "totems" really stand for moieties, which may prove to be similar to those of the Tachi Yokuts, who were the closest neighbors of the Salinan on the east.

Mr. J. P. Harrington for some time past has been investigating the Chumash of the Santa Barbara region. The details of Chumash social organization will perhaps prove to be quite similar to those of the Yokuts tribes, mentioned in the present paper, who lived to the northeast of the Chumash region.

The next task is to extend the survey to the Washo and the Southern Maidu in the north and, if results among these stocks warrant it, also to the Southern Wintun. The examination of the Lake Miwok will perhaps prove instructive as to the origin of the moiety institution among the Sierra Miwok. The remnants of the Plains Miwok and of the Costanoan stock have so far yielded no positive results as to a clan or moiety organization. There are still other informants to be examined, however. In the south the Mono living on the western slope of the Sierra Nevada south of the San Joaquin River have yet to be visited, as have also the other Yokuts tribes not already mentioned. Information obtained from the Tachi Yokuts indicates that at least the following Yokuts tribes inhabiting the San Joaquin Valley probably had an organization akin to that of the Tachi: Chunut, Nutunutu, Telamni, Wechikhit, and Wowol.

The elucidation of the relations between the type of social organization found in South Central California and the type of organization found among the Luiseño, the Mohave, and the Pima, all tribes possessing clans, is one of the ultimate aims of

<sup>1</sup> The Ethnology of the Salinan Indians, Univ. Calif. Publ. Am. Arch. Ethn., x, 189, 1912.

the survey. Another equally important matter, to be clearly established, is the interrelations within the South Central California area itself. Although it is still too early to make a positive statement, yet it seems that the Miwok organization, judging from its simpler character, as compared with the Tachi, lies on the periphery of the moiety area, not only geographically, but also in point of complexity. A consideration of the North Fork Mono complex conveys a similar impression. The absence of exogamy and the presence of a kinship system totally unlike that of the other groups having a dual organization seem to warrant the conclusion that the ceremonial features of the Yokuts and Miwok moieties have been borrowed, while the two social features, exogamy and kinship system, have not. It is therefore not unlikely that, in South Central California, the dichotomous social organization was primarily a valley institution, which spread to the mountains.

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THE DELINEATION OF THE DAY-SIGNS IN  
THE AZTEC MANUSCRIPTS

BY  
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CONTENTS

	PAGE
Introduction .....	298
The Manuscripts .....	299
The Aztec Calendar System .....	300
The Time-periods .....	300
Method of Determining the Time-periods .....	302
System of Dating .....	303
The Twenty Day-symbols .....	304
The Numerals .....	308
The Method of Writing Dates .....	309
The <i>Tonalamatl</i> , or Book of Indexes .....	310
The Book of Indexes Applied to the Time-periods .....	311
Corrections of the Calendar .....	316
Origin of the Calendar System .....	321
The Reason for Twenty as a Factor .....	322
The Reason for Thirteen as a Factor .....	323
Derivation of the Calendar Symbols .....	327
Probable Line of Evolution .....	327
The Delineation of the Calendar Symbols in the Manuscripts .....	328
The Twenty Day-signs; their Characteristics and Variations.....	332
Water-monster ( <i>Cipactli</i> ) .....	334
Wind ( <i>Ehecatl</i> ) .....	337
House ( <i>Calli</i> ) .....	342
Lizard ( <i>Cuetspalin</i> ) .....	343
Snake ( <i>Coatl</i> ) .....	346
Death ( <i>Miquietli</i> ) .....	347
Deer ( <i>Masatl</i> ) .....	351
Rabbit ( <i>Tochtli</i> ) .....	353
Water ( <i>Atl</i> ) .....	357
Dog ( <i>Itscuintli</i> ) .....	360
Monkey ( <i>Osomatli</i> ) .....	362



Grass ( <i>Malinalli</i> ) .....	364
Cane ( <i>Acatl</i> ) .....	368
Ocelot ( <i>Ocelotl</i> ) .....	370
Eagle ( <i>Quauhtli</i> ) .....	374
King-vulture ( <i>Cosoaquauhli</i> ) .....	376
Motion ( <i>Olin</i> ) .....	377
Flint ( <i>Teopatl</i> ) .....	382
Rain ( <i>Quiahuitl</i> ) .....	385
Flower ( <i>Xochitl</i> ) .....	390
Borrowing of Characteristics .....	392
Conclusion .....	393
Bibliography .....	394

## INTRODUCTION

A very noteworthy achievement of the ancient Aztecs was their peculiar calendar system. Even the Aztecs themselves seem to have looked upon this calendar as the central fact of their lives. It was not only of importance from a practical point of view, but it filled a very large place in the ceremonial life of the people. Thus "calendar" had a meaning for them which the word quite fails to carry for us. While their calendar system was in a sense peculiar, its peculiarity lay chiefly in one or two unusual features. In many ways the system was after all not unlike our own. This does not, of course, mean that the two systems, theirs and ours, had any historical connection. The development of the Aztec calendar was undoubtedly independent of any influence from the Old World. I am inclined to think that the Aztec system is not so mysterious, and the history of its development not nearly so abstruse, as the many commentaries written on it would lead us to suppose.

It is a well-established fact that the particular system identified with the Aztecs of Mexico was merely an outgrowth, a sort of special form, of one fundamental calendar concept which had a very wide vogue in Middle America. This system is undoubtedly more ancient, for example, in Honduras, than it is in the Mexican plateau. The Aztecs merely developed their own special nomenclature for the various elements of this calendar, and evolved certain special symbols. The system in its broad outlines is very much older than the Aztec civilization proper.

## THE MANUSCRIPTS

Calendar symbols of one sort or another occur on a surprising variety of monuments, both of early and late periods. The most important of these monuments for the study of the workings of the calendar system in detail are certain remarkable picture-books or manuscripts, made on folded strips of deerskin, or on paper made of the fibre of the maguey (*Agave americana*). These manuscripts are usually spoken of as "codices." Only a few of these native manuscripts survived the introduction of European civilization into America. Those which were preserved were taken to Europe as curiosities, and often preserved through mere luck. The ones still extant have received a great deal of attention since the early part of the last century. All but a few of the originals are still in Europe, and are at the present time considered priceless.

The earliest effort at publishing or reproducing them on a large scale is a work by Lord Kingsborough, in nine magnificent volumes, called *Mexican Antiquities*.<sup>1</sup> The arrangement of the material in this work betrays almost complete ignorance of the composition of the original manuscripts; and more than that, the work of reproduction itself is, in a great many particulars, inexact. The nine volumes, however, imperfect as they are, have been the foundation of a great deal of later study. The American scholar Cyrus Thomas,<sup>2</sup> has written several papers on Aztec matters which are based largely on Kingsborough's work. The same might be said of at least one well-known monograph written by the Mexican archaeologist Antonio Peñafiel.<sup>3</sup> Reproductions very similar to Kingsborough's in general type, but rather better in details of execution, have been published from time to time in Mexico. Thus Peñafiel's enormous work (noteworthy at least in size and weight), called *Monumentos del arte mexicano antiguo*,<sup>4</sup> contains two Aztec manuscripts, namely, the "Book of Tributes," and the "Zapotec Codex," both reproduced in fac-

<sup>1</sup> For full titles of all works referred to, see bibliography at end of essay.

<sup>2</sup> See his "Numeral Systems of Mexico and Central America," 1893.

<sup>3</sup> *Nombres geográficos*, 1885.

<sup>4</sup> Berlin, 1890, two volumes of plates and one of text.

simile, including color. A more recent work, edited by Chavero, *Antigüedades mexicanas*,<sup>5</sup> contains several pictographic texts in color. Since the year 1883 there have become available, due principally to the Duke of Loubat, a number of very beautiful facsimiles of ancient texts, which reproduce, in every respect, the original picture manuscripts. A list of the facsimile texts on which the present study is based will be found in the bibliography below. A few "codices" like the Codex Borbonicus, edited by Hamy, have not been used in the present study simply because copies were not locally available. Moreover, those manuscripts are most interesting which seem to be purely Aztec, or which show few traces of Spanish influence. Hence such sources have been most emphasized in the following pages.

## THE AZTEC CALENDAR SYSTEM

### THE TIME-PERIODS

It seems necessary to begin a discussion of the treatment of the calendar in the manuscripts by pointing out the most essential features of the calendar system itself. That will accordingly be our first concern. A good deal of uncertainty has always existed concerning some of the details of the ancient Aztec calendar. Discussion about certain points began only a few years after the Conquest. Bernardino de Sahagun, for example, whose *Historia general de las cosas de Nueva España*<sup>6</sup> is perhaps the most valuable literary source for the study of conditions among the Aztecs, was already involved in the year 1539 in an acrimonious dispute with another monk concerning the question of whether or not there were "corrections" or "intercalations" in the Aztec system. Other features of the system have always been surrounded with mystery. Certain facts, on the other hand, are quite clear and have never been the subject of dispute. Prominent among them is the fact, which must never be lost sight of, that the basis of everything calendrical was the solar year of 365 days, representing (though the Aztecs,

<sup>5</sup> Mexico, 1892, one volume of plates and one of text.

<sup>6</sup> See bibliography.

of course, never dreamed of the celestial mechanics involved) approximately the period of the earth's revolution about the sun. This is the starting-point and basis for all the other features of their calendar.

Their calendrical computations seem, to be sure, to reflect knowledge of other periods, based not on the sun but on the stars. Seler,<sup>7</sup> and Förstemann<sup>8</sup> have said a great deal about a so-called "Venus year," a period of 584 days based on the movements of the second planet of our system. Seler has also discovered what seem to his own mind traces of a period based on the revolution of Mercury. It may readily be assumed that the Aztecs had considerable knowledge of the stars, and the recognition of star-periods is by no means impossible. It is a very notable fact in this connection that the ancient peoples of Mexico paid little regard to the most conspicuous body in the heavens, aside from the sun, namely the moon. This is especially interesting because the moon's phases are employed almost the world over, as marking off convenient periods of time. An important work of the middle seventeenth century, the *Manual de los ministros de las Indias*, by a Jesuit, Jacinto de la Serna,<sup>9</sup> states that certain month-periods were actually reckoned by the Aztecs, beginning with each new moon. These are said to have been used by women, especially in connection with the period of pregnancy. Periods based on the moon, however, do not appear in the manuscripts, and even moon symbols are noticeably infrequent.<sup>10</sup>

There was recognized in ancient Mexico, in addition to the year mentioned above, a period of twenty days, a *cempoalli*, employed as a subdivision of the year-period. Such twenty-day units were regularly employed in speaking of a lapse of time of less than a year's duration. Eighteen of these *cempoallis*, or twenty-day periods, with a group of five special days added at the end, made up the regular year of 365 days. The five days thus added to the eighteen "twenties" are the often-mentioned *nemontemi* referred to in every account of the Aztec calendar.

<sup>7</sup> 1898.

<sup>8</sup> 1893.

<sup>9</sup> Published in 1899. See bibliography.

<sup>10</sup> See Cyrus Thomas, 1897, p. 954.

Many of the statements made concerning these *nemontemi* by the older authors lead to confusion. The five days in question were considered unlucky, and the Aztec refrained, as far as possible, from all activity during the period. Considered collectively, they had no name, though each of the preceding eighteen periods had one. It is often said, therefore, that they "were not counted." Seler has shown<sup>11</sup> that this means that they were "of no account," since all activities were, as far as practicable, suspended until the five-day period was safely over. We know for a fact that the separate *nemontemi* days were duly reckoned in their regular places in all calendrical computations. The consensus of modern opinion is that they are not to be looked upon as intercalations or corrections. The Aztecs, then, in referring to the passage of time, employed (1) a period of 365 days, broken up into (2) subdivisions or *tempoalli* of twenty days each, each subdivision having a name. Besides the *tempoalli* there was a nameless five-day period. Such twenty-day periods are often called months. It is, I think, worthy of some reiteration that our English word "month" is philologically based on the word *moon*, just as, from the practical point of view, the month-period is approximately one "moon" of 29½ days. Obviously, therefore, the word *month* cannot be appropriately applied to these twenty-day Aztec periods.<sup>12</sup> Our best resource is to fall back, in mentioning these subdivision of the Aztec year, on the native word *tempoalli*, which means simply a "period of twenty." They were not of prime importance in calendrical computations.

#### METHOD OF DETERMINING THE TIME-PERIODS

A point to be re-emphasized is that the one fundamental element at the bottom of the Aztec calendar system is the 365-day solar year.

The question which next arises is: how did the Aztecs come to note so exactly the periods of revolution of certain of the heavenly bodies such as the sun, and perhaps of some of the planets? It seems that they had a simple but rather effective

<sup>11</sup> 1891.

<sup>12</sup> Seler, 1900-1901, p. 5, makes this point.

method of making observations. Mrs. Nuttall in the Boas Anniversary Volume refers to a picture showing how celestial movements were registered. A priest, to describe it briefly, sits inside a temple door and notes, with the aid of a notch on the lintel, the position of the rising or setting of a planet. The planet rises, of course, in a slightly different place day after day. By observing the rising of this planet until it got back to its original point, he could determine its "period." Probably the approximate length of the solar year was established in this way—by noting the variation of the point of sunrise, day by day, until the return of a summer or winter solstice marked the completion of a given period. The priest could meanwhile keep a tally of days by notching a stick, or in some other way. Apparatus for making more exact observations than this certainly never existed among the ancient Mexican peoples. The general situation as regards astronomy and their attitude towards it is brought out in a rather interesting way in an address reported to have been delivered to Montezuma on the occasion of his assumption of the office of principal war-chief. This exhortation is chronicled by Tezozomoc,<sup>13</sup> and is referred to by Seler.<sup>14</sup> The war-chief is urged "to rise at midnight and look at the stars; toward morning he must carefully observe the constellation Xonecuilli, St. Jacob's Cross; and he must carefully observe the morning star." Sahagun also, in the seventh book of *Historia general* gives an elaborate account of Aztec astronomy. They had therefore enough knowledge to realize the importance of the heavenly bodies for recording the passage of time. It seems quite natural that their time-periods should have a basis in the movements of certain celestial bodies.

#### SYSTEM OF DATING

The Aztecs seem to have recognized, then, a number of time-periods, the most important of which is the solar year. Now comes the question of how they wrote down dates.

Perhaps the simplest way of understanding the Aztec system of indicating dates within the year is to recall the salient fea-

<sup>13</sup> *Crónica mexicana*, chapter 82; see Kingsborough, 1831, vol. 9.

<sup>14</sup> 1898, p. 346.

tures of our own system. We recognize, first of all, our year of 365 days (disregarding for the moment leap-year and other "corrections"). We divide this year up into twelve unequal periods. These periods were, in the youth of our calendar, much more uniform than they are at present. A number of perfectly trifling considerations have from time to time been allowed to alter the length of certain months. Within each of our months the days are numbered in order, beginning with 1. We identify days, then, by using twelve *names*, each name in combination with twenty-eight, twenty-nine, thirty, or thirty-one numerals as the case may be. Considered from this point of view, our system offers many points of resemblance to the Aztec. The latter, however, employed not twelve but *twenty* names, and used each of these names in combination with *thirteen numerals*. They did not utilize the "months" or *tempos* for writing dates. It is best perhaps at this point to have these day-names used in dating and their symbols clearly in mind.

#### *The Twenty Day-symbols*

The Aztec words which were used as day-names are all names of actual animals, objects, or phenomena. In writing or recording these words the Aztec made use of pictures. This gives us a series of twenty "day-symbols," which are of fundamental importance in all calendar reckonings. It is very much as though we ourselves used our present names for the twelve divisions of the year, but represented them by pictures—perhaps a picture of *Janus* for the month of January, of *Mars* for March, and so on. The twenty day-names of the Aztecs, in the order in which they usually appear, are given in the following list. In this list the English equivalent of the Aztec word is given first, with the native term following it. The orthography used is that adopted by the Spanish on their first contact with the Aztecs, since that orthography has become classical, and is now a fixed tradition among Americanists. The pronunciation of the Aztec words here written is practically that of modern Spanish, except that *x* has the value of English *sh*, and *z* that of English *ts*. The double-*l* has more nearly the value of the symbol as used in English than in Spanish.

## THE AZTEC DAY-NAMES

Water-monster	<i>Cipactli</i>
Wind	<i>Ehecatl</i>
House	<i>Calli</i>
Lizard	<i>Cuetspalin</i>
Snake	<i>Coatl</i>
Death	<i>Miquistli</i>
Deer	<i>Masatl</i>
Rabbit	<i>Tochtli</i>
Water	<i>Atl</i>
Dog	<i>Itzcuintli</i>
Monkey	<i>Osomatli</i>
Grass	<i>Malinalli</i>
Cane	<i>Acatl</i>
Ocelot ("Tiger")	<i>Ocelotl</i>
Eagle	<i>Quauhtli</i>
King-vulture	<i>Coscaquauhiti</i>
Motion	<i>Olin</i>
Flint	<i>Tecpatl</i>
Rain	<i>Quiahuitl</i>
Flower	<i>Xochitl</i>

The graphic symbols corresponding to these names will be found in figure 1. The name of the sign is in each case written under it in English, with the original Aztec word in italics. The drawings used in this figure are taken from various Aztec manuscripts, as follows:

<i>a</i> , Nuttall (Zouche), <sup>15</sup> p. 46	<i>k</i> , Nuttall (Zouche), p. 72
<i>b</i> , Nuttall (Zouche), p. 83	<i>l</i> , Nuttall (Zouche), p. 48
<i>c</i> , Nuttall (Zouche), p. 47	<i>m</i> , Nuttall (Zouche), p. 46
<i>d</i> , Nuttall (Zouche), p. 42	<i>n</i> , Nuttall (Zouche), p. 72
<i>e</i> , Nuttall (Zouche), p. 44	<i>o</i> , Nuttall (Zouche), p. 1
<i>f</i> , Nuttall (Zouche), p. 48	<i>p</i> , Nuttall (Zouche), p. 54
<i>g</i> , Vatican B, p. 66	<i>q</i> , Nuttall (Zouche), p. 47
<i>h</i> , Nuttall (Zouche), p. 57	<i>r</i> , Vatican B, p. 50
<i>i</i> , Fejervary, p. 28	<i>s</i> , Nuttall (Zouche), p. 39
<i>j</i> , Nuttall (Zouche), p. 72	<i>t</i> , Nuttall (Zouche), p. 47

The effort has been made in this figure to exhibit a typical form of each of the signs. The drawing has been selected in each case, out of the large number available, as being perhaps the most characteristic form and the one most frequently encountered. Many of the graphic symbols in this figure are, as regards their meaning, self-explanatory. The symbols for House, Lizard,

<sup>15</sup> For the citations, consult the list of manuscripts in the first part of the bibliography.



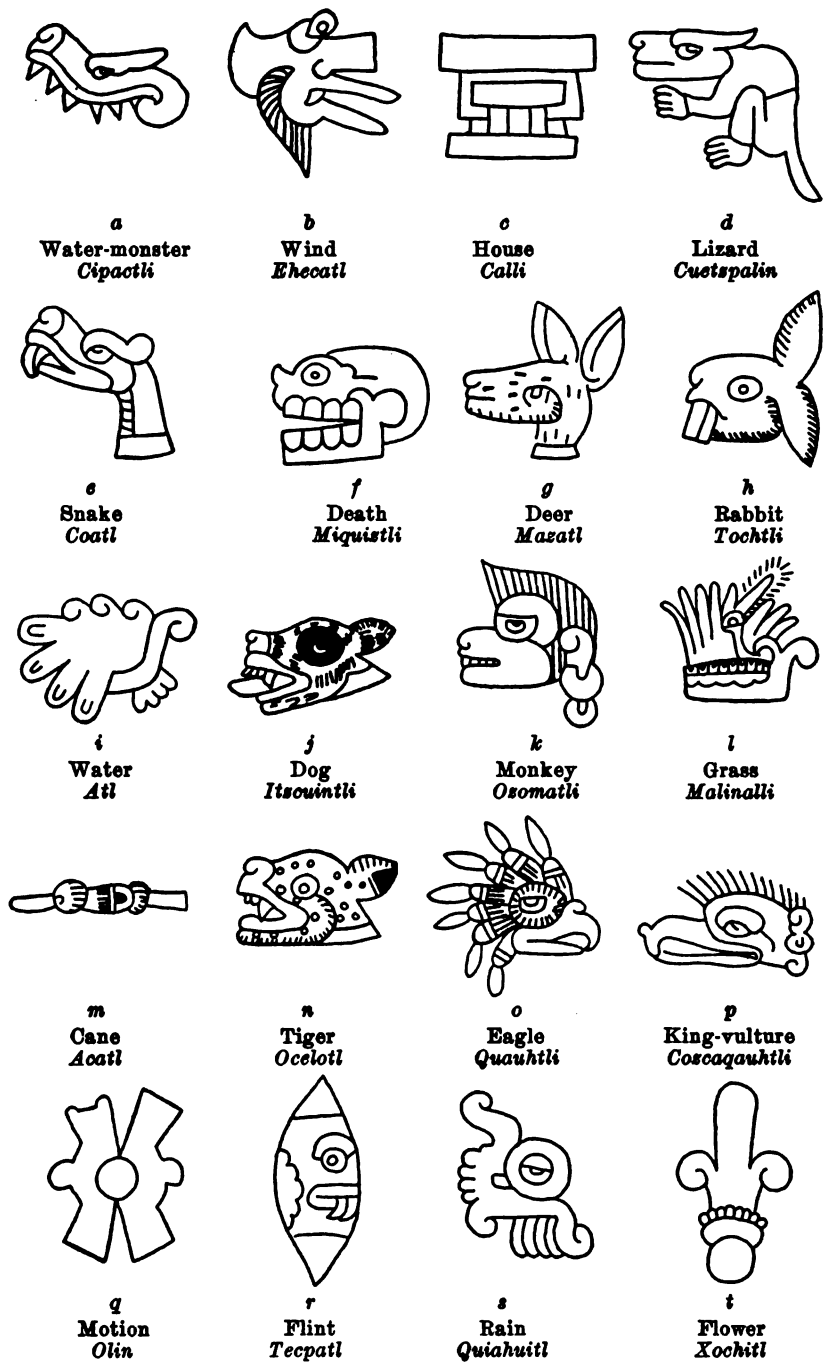


Fig. 1.—The Twenty Day-signs, Typical Forms

Snake, Deer, Rabbit, Water, Dog, Monkey, Ocelot, Eagle, Vulture, and Flower (*c, d, e, g, h, i, j, k, n, o, p, and t*, in the figure) are fairly realistic pictures in each case of the thing itself. The remainder are more or less puzzling. The first drawing (*a*) represents a head, probably that of the "cayman," either the alligator or the crocodile. Both animals are very common along the southern borders of the Gulf of Mexico. The second symbol in the figure (*b*), standing for the idea "wind" is a representation of the wind-god Quetzal-coatl, or "Feathered Serpent." In this drawing he is shown, as is often the case, in human form. The long beak shown in the figure is thought by some students to be connected in some way with the idea of blowing. The sixth sign (*f*), called "Death," is very appropriately drawn as a human skull. The twelfth sign (*l*), "Grass," possesses, as it is usually drawn, at least one curious feature. Underneath a very realistic representation of a bunch of grass, with a seed stalk in the center, there appears a human jawbone. The next symbol in the list, "cane" (*m*), is a representation of the cane shaft of an arrow or javelin, probably the latter. The appendages on this "cane" figure apparently represent the feathering and ornamentation of the missile. The cane-plant itself seems never to occur as a day-sign. The idea is always represented by the cane shaft. The seventeenth sign (*q*) is very much of a puzzle. It represents the idea "motion"; but why motion should be symbolized in this particular way seems impossible to say. Seler<sup>16</sup> does, to be sure, advance the notion that it represents, in one place, the sun between the sky and the earth (see p. —, below). For all the certain knowledge we have, it must be considered an arbitrary symbol. The eighteenth symbol (*r*) stands for the word "flint." It is quite a realistic picture of a double-pointed flint knife of the type found in use among nearly all uncivilized peoples. The design at the middle of the edge of this knife is the remnant of a picture of a human face.<sup>17</sup> The nineteenth symbol, Rain, represents the face of the rain-god (see page 385, below). More specific comment on the forms of these symbols will be found in another part of this paper.

<sup>16</sup> 1900-1901, p. 14.

<sup>17</sup> See figure 35, below.

*The Numerals*

The second principal factor in the calendar system is a series of thirteen numerals. There are a number of interesting opinions as to why the list of numerals should have been limited to thirteen. Some of these opinions are noticed and compared in another section of the present paper. The mere writing of these numerals is a very simple matter. The value is indicated in every case by a series of dots. Very little system is apparent in the placing of these dots. They seem to be placed around the day-sign according to the taste of the artist, in the position which gives the best artistic effect, or where there is convenient space (fig. 2). Other ways of indicating number than the rather

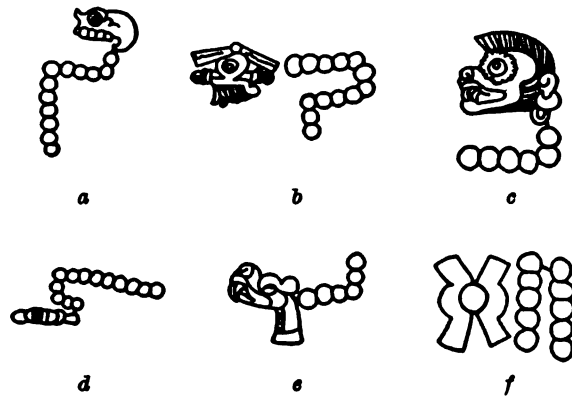


Fig. 2.—The Method of Writing Calendar Numerals

a, The day 12 Death (Nuttall (Zouche), p. 76); b, 13 Rain (Nuttall (Zouche), p. 46); c, 6 Monkey (Nuttall (Zouche), p. 44); d, 13 Cane (Nuttall (Zouche), p. 44); e, 6 Snake (Nuttall (Zouche), p. 44); f, Motion (Peñafiel, 1890, vol. 2, p. 288).

awkward method of writing down dots, were perfectly well known to the Aztecs.<sup>18</sup> In the "Book of Tributes" and other places where considerable quantities of commodities are to be enumerated, a number of devices are used. Thus "twenty" is represented by a picture of a *pantli*, or battle-flag. A picture apparently representing a feather stands for the quantity "two hundred." There are other symbols for larger quantities. In

<sup>18</sup> See Cyrus Thomas, 1897, pp. 945-948.

the Bologne Codex, "five" is indicated by a straight line, and ten by two parallel lines. Such short-cuts were not customarily applied to the writing of dates. We have in the two principal factors just discussed, then, the raw materials on which the whole writing-out of the calendar was founded: (1) a set of twenty symbols or "day-signs," used with (2) a set of thirteen numerals, indicated by dots.

### *The Method of Writing Dates*

At this point there appears one of the curious features of the Aztec system, to the existence of which reference was made above. The Aztecs, in writing a series of consecutive dates, changed for every date in the series both the day-sign and the numeral. Moreover, as soon as they came to the end of either list, they at once began at the beginning, regardless of how far along they were in the other list. Certain remarkable results follow from this, as will be apparent when it is remembered that the list of numerals was very much shorter than the list of day-signs. Suppose the Aztec were writing our dates according to his own system. He would represent January first by a name and a numeral. For the next day, however, he would have written, not *January-two*, but *February-two*. Thus, he uses throughout the symbols and numerals in double progression. The twelfth day of our year, according to the Aztec system, would have been written *December-twelve*, and the thirteenth, *January-thirteen*. The fourteenth would, assuming that our names were to be used in the Aztec fashion, however be *February-one*. February would be the "sign," following January, and the given date would take the numeral "one" because after the thirteenth numeral has been used, it is necessary to begin again with the first. A good many different illustrations of the Aztec system have been brought forward from time to time.<sup>19</sup> As a matter of fact, there is nothing complicated about it, though it would be the last thing probably to suggest itself if one of us were inventing a calendar system. Its difficulty is entirely due to the fact that it is utterly different

<sup>19</sup> See Tylor, 1863, p. 239. Seler supplies complete tables of the dates written out in the order in which they occur (1891, p. 1).

from what we happen to do ourselves. No reason for the Aztec custom in regard to the numerals has so far been advanced.

*The Tonalamatl, or "Book of Indexes"*

Every day in the Aztec calendar, then, had what might be called an index, consisting of a symbol used in conjunction with a numeral. The twenty day-signs, every one of which could be written with one of the thirteen numerals, make up a series of  $20 \times 13$ , or two hundred and sixty indexes, all told. This series of compound terms for dates was known to the Aztecs as the *tonalamatl*, literally "Book of Days." It has become customary to use the native term *tonalamatl* in speaking of the series, since the Aztec word has no exact equivalent in any of the European tongues. This "Book of Indexes" is really the one important achievement of the Aztec and all related calendar systems. All the other features of the system (and many of them are both curious and interesting) really follow in a perfectly mechanical way from the application of these 260 day indexes, which is all the Aztec had or could supply, to the solar year of 365 days. The solar year is, in a sense, a "discovery," since it is based on the actual revolution of the earth about the sun, but the *tonalamatl* of 260 signs is apparently an artificial device. One point demands decided emphasis in this connection. The 260 date symbols mentioned above do not correspond to any period used in recording the passage of time. The time-periods are (first) the year, and (second) its subdivisions, the "twenties." One of the many things that make the literature on the Aztec calendar hard to follow is the habit which authors have of recognizing the point just emphasized, that the *tonalamatl* is not a time-period, but meanwhile referring to it in a loose and inconsistent way.<sup>20</sup> The *tonalamatl* represents merely the number of indexes or labels that the Aztec had at his disposal in writing dates. It is precisely from this fact—that the *tonalamatl* was not a period for reckoning time—that the most typical features of the calendar system follow.

<sup>20</sup> For example, Seler, 1901, p. 16, or Nuttall, 1904, p. 494.

*The "Book of Indexes" Applied to the Time-periods*

Let us suppose, for example, that we are at the beginning of an Aztec year. The dates, according to the Aztec custom, are to run in one continuous series. The division into months is of no significance as far as the writing of dates is concerned. The *tonalamatl* of 260 symbols, as a little reflection will show, reaches only two-thirds of the way through the year. At the end of 260 days we begin to use the *tonalamatl* over again. There is no help for this, as there are no additional indexes for dates beyond the 260th, on which the Aztec could draw. Certain indexes will occur twice, then, in any given year. The 261st date in each year, to go no further, will be exactly the same as the first. If the Aztec wanted to distinguish between the two, he had to adopt some indirect method.<sup>21</sup> If we began a year, then, with the beginning of the *tonalamatl*, at the end of that year we would find ourselves well embarked on our second voyage through the *tonalamatl*. The first turn through the *tonalamatl* would take us to September 17, and in the remainder of the year we would use 105 of the 260 indices over again. It is a point for immediate emphasis that at the end of the year the Aztec did not begin a new *tonalamatl*, but went right on in the new year with the remainder of the *tonalamatl* which he had already partly used. Eternity for the Aztec consisted of an endless series of dates, occurring in regular cycles of 260, irrespective of how these cycles conformed or failed to conform to the actual year-periods. We see, therefore, that the same principle is applied to the *tonalamatl* as a whole, that was applied in the case of the two factors mentioned above, the twenty symbols and the thirteen numerals.

It must be remembered that the list of day-symbols, and the numeral series, are used over and over again in two independent cycles, *ad infinitum*. It is obvious, therefore, that in a year of 365 days the list of twenty day-symbols will be used eighteen times, with the addition of five signs out of the nineteenth revolution ( $365 = 20 \times 18$ , plus 5). If a given year begins with the *first* day-symbol, then the next year will begin with

<sup>21</sup> See page 314 of the present paper, note 23.

the *sixth*. The next year after that must begin with the *eleventh*, and the year after that with the *sixteenth*. All this follows mathematically from our premises. The year after the one last mentioned (that is, the fifth year reckoning from a given point) begins with the sixth day-sign succeeding the one last mentioned, which is again the first of our series of twenty. It must be remembered that there is no twenty-first in the series. The sign following the twentieth is of necessity the first. Hence, no matter how often the *tonalamatl* is used, the only symbols which will appear on the initial days of years are the first, the sixth, the eleventh, and the sixteenth of our list. This follows as a mathematical result merely of applying a series of twenty day-signs in rotation to a year of 365 days. The Aztecs were accustomed to name the year after its initial day.<sup>22</sup> There were, therefore, only four of the twenty signs which could, in the nature of the calendar, stand at the beginning of the year and serve for year-names. It might be well to follow an established custom and call these four the *dominical* day-signs. As a matter of fact, the Aztecs named their years after the thirteenth, the eighteenth, the third, and the eighth symbols of the list as it is given above. Every year must begin either on the sign *Acatl* (cane), *Tecpatl* (flint), *Calli* (house), or *Tochtli* (rabbit). If we assume that the year begins with one of these signs, the other three follow mechanically. The reason for the shift from the use of the first, sixth, eleventh, and sixteenth day-signs as dominicals, to the third, eighth, thirteenth, and eighteenth is not known. The facts concerning the beginning or initial day-signs were first rendered absolutely certain, I believe, by Mrs. Nuttall at a meeting of the International Congress of Americanists at Huelva, Spain, in 1892. It must simply be admitted that the first sign in the list, according to the usage of the Aztecs at the time of the Discovery, never fell on the first day of the year.

Applying to the numerals a procedure similar to the one we have just applied to the day-signs, it becomes evident that

<sup>22</sup> Nuttall, 1903, p. 13. Seler (1893, p. 142) advances the opinion that they named the year after the first day of the fifth month. Without discussing this point, it is a fact that in general the Aztecs called the year after the index of one particular day in that year. It seems altogether likely that they would select the first day for this purpose.

the whole series of thirteen numerals would be used twenty-eight times in a year and still have one day unaccounted for ( $28 \times 13 = 364$ , only, while there are 365 days in the year). Remembering the Aztec principle of reverting to the first as soon as a series is exhausted, it is evident that if the first day of a solar year had the numeral 1, the last day of that year would also have the numeral 1. The next year would therefore begin with the numeral 2. This second year, like the preceding one, would end on the same numeral as the one it began with; and hence the third year in the series would begin with the numeral 3. Thus the years in their flight begin with the various numerals in order—a very curious thing, depending on the fact that (1) the year has 365 days, and (2) the numeral series is contained in the year a certain number of times with a remainder of one. Assuming that the Aztecs, before their calendar system was invented, were familiar with the length of the year, it is almost conceivable that they chose thirteen numerals on account of the very consideration that every successive year would in that way begin with a different numeral. Fourteen numerals, however, would of course have served this particular purpose quite as well as thirteen. Such a reason for the selection of thirteen is about as good as any so far offered. To recapitulate: The Aztecs had for calendrical calculations twenty day-signs, thirteen numerals, and a certain number of year-signs, the latter consisting of the indexes which fall on the day on which the year begins. There are only four day-signs which fall on the beginning days of years, according to the Aztec system of revolving the calendar; but each of these four signs combines in regular order with one of their thirteen numerals. The total number of indexes which can fall on the initial days of years is therefore four times thirteen, or fifty-two.

It might be well to take some definite examples of the working of this system. Let us assume that the first year of a period begins with the date 1 Cane; the next must begin with the date 2 Flint; the next with the date 3 House; and the next with the date 4 Rabbit; and so on, until every one of the four signs has occurred with each of the thirteen numerals. It will be remembered that the Aztecs named the year after its initial date (see



page 312, above). The Aztecs could with propriety speak of the *day* 3 House, in the *year* beginning with 4 Rabbit. Such a combination "3 House, 4 Rabbit" could not occur again until a whole series of fifty-two years was passed over.<sup>22</sup> As a matter of fact, the Aztec dates were written in precisely this manner, naming both the day-index and the year in which it occurred. The index falling on the beginning day of a year is regularly found associated with a peculiar "year" sign, looking like a monogram composed on an incomplete A and O (fig. 3). It is obvious that at the end of fifty-two years there are no new "year" signs to

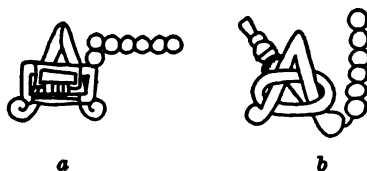


Fig. 3.—The Year-symbol or Year-sign

a, 7 House (Nuttall (Zouche), p. 52); b, 6 Cane (Nuttall (Zouche), p. 44).

be employed, since all the possible initial day-signs have combined with all thirteen numerals. It becomes necessary after fifty-two years to begin with the first again. At the end of such a fifty-two year period the Aztecs celebrated what is called a "tying of the years." The priests kindled new, clean fire with the fire-drill, which was distributed broadcast, and a fresh start in reckoning was taken. Such a fifty-two year period is called a "cycle" (in the Maya calendar of Central America, a "calendar round"). There seems to have been no way known to the Aztecs of distinguishing the dates in a given cycle from those in other cycles. The Aztecs, then, had no fixed point from which they reckoned, and every fifty-two years really represented a new calendar. Their records could hardly be said to cover a longer period than this. Tradition or legend might go back enormously further, but a point never to be too much insisted upon is that

<sup>22</sup> Bearing always in mind the proviso that there might, in certain cases, be two dates "3 House" in the same year. If the Aztec had wanted to be specific in such a case, he could do so only by stating how much time had elapsed since the beginning of the year, or by putting with the day-index a picture of the special divinity who ruled over that day and no other (Seler, 1891, p. 18).

when the Aztec chronicler spoke of what had happened a couple of centuries before his own time, he was imparting essentially mythological information, and was not dealing with historical or chronological facts. In spite of their complex calendar system, the Aztecs, at the time of the Conquest, were a people without a history.<sup>24</sup> It seems entirely probable that the archaeologist will, within the course of the next few years, know vastly more about the history and antecedents of the peoples and tribes known collectively as the Aztecs, than they ever knew themselves. This history will be reconstructed from their archaeological remains, not from their writings.

This calendar system would, therefore, seem in a sense to be a failure. In justice to the Aztecs, however, it must be remarked that their calendar was not devised for the purpose of keeping chronological records. If an Aztec knew in a general way that a given event happened in the time of his grandfather, he seems to have considered himself amply informed. Their calendar was a matter, not of the past, but entirely for the present and the future. Certain combinations of signs used in dating were held, for reasons we can no longer fathom, to imply good fortune. Certain other combinations spelled disaster and woe. The calendar was very generally employed, in accordance with this notion, as a means of soothsaying or divination. Every date had a meaning of its own, irrespective of its relation to other dates. It was in this aspect of the calendar that the Aztec found himself most vitally interested. Their attitude is brought out very nicely by the fact that they gave a man, for his personal name, the index of the day of his birth.<sup>25</sup> This date served him for a name until he won so much distinction and honor that he deserved a better one—an attitude that in general is quite in line with the customs of the American Indians in other parts of the New World. The 260 indexes of the *tonalamatl*, then, appear quite commonly in the Aztec manuscripts as the personal names of heroes. So far as I know, however, they kept no record of how old any individual was. The fact that he was born under certain auspices was important. Nobody cared about his actual age. The calendrical

<sup>24</sup> Brinton in his various works insists on this point.

<sup>25</sup> Codex Magliabecchi (Nuttall, 1903), p. 12.

achievements of the Aztecs, then, are not to be measured by their success in writing chronological history. There are certainly not to be adjudged as having made a failure of something which they after all rarely dreamed of attempting.

#### CORRECTIONS OF THE CALENDAR

We saw above that the Aztec year had a length of 365 days. The actual length of our solar year is appreciably greater than that—365 days, 5 hours, 48 minutes and 46 seconds, to be exact. The ancient Mexicans, then, made the mistake every year of beginning the new year more than five hours too soon. Such a habit as this leads in the long run to some confusion. In the course of four years the accumulated error makes a difference of practically a full day. At the end of a century of such continual and unrectified miscalculation, the New Year's festival, assuming that one exists, will be celebrated almost a month before the proper time. Such matters take on an appearance of some importance when we reflect that the Aztecs were, above everything, an agricultural people. If conditions found to-day among the agricultural Indians of the United States (for example, in the Southwest) are any criterion, it seems rather likely that the ancient Aztecs took a fanatical interest in the maturing of certain crops. To the sedentary Indian of the United States the center of everything is his cornfield. That the attitude of the ancient peoples of middle America was, as a matter of fact, not essentially different is shown by a passage in the famous "Franciscan Chronicle"<sup>26</sup> referring to the Cakchiquels of Guatemala:

If one looks closely at these Indians, he will find that everything they do and say has something to do with maize. A little more, and they would make a god of it. There is so much conjuring and fussing about their cornfields that for them they will forget wives and children, and any other pleasure, as if the only end and aim in life was to secure a crop of corn.<sup>27</sup>

It seems entirely probable that the most important religious festivals in Mexico, as among the recent agricultural Indians in

<sup>26</sup> *Crónica de la S. Provincia de Guatemala*, etc. See bibliography at end of this paper.

<sup>27</sup> *Op. cit.*, chapter VII, quoted by Brinton, 1885, p. 14.

eastern and southwestern North America, were connected with the crops.<sup>28</sup> The religious symbolism of the ancient Aztecs is almost as thoroughly pervaded with references to corn-deities and rain-gods, as are the rituals of the modern Pueblo Indians. The festivals of a people so interested in crops must necessarily have reference to certain fixed seasons of the year. It seems likely, therefore, with regard to the Aztecs, that very serious discrepancies arose at a very early period between the time for the ceremonies, as shown by the progress of the calendar, and the occasion for these observances, as indicated by the state of the crops. The calendar system, it must be remembered, in the form in which we know it, has a history of many centuries behind it. Its symbols occur on some very ancient monuments. Time enough had elapsed, therefore, by the period when our record opens, for such discrepancies to have become acute. The Aztecs, owing to this "precession" of their calendar, might well have found themselves at times celebrating harvest-home festivals before the crops were so much as put into the ground. Each generation must have discovered, from its own experience, that their year of 365 even days was too short. From what we know of Aztec life, then, we should expect to find some provision in their calendar for corrections of some sort or other.

No marked success, however, has met the numerous efforts which have been made to prove that a system of periodic corrections or "intercalations" really existed. The present writer, moreover, cannot but feel that all the theories so far advanced concerning the Aztec system of correction have been founded more or less frankly on the knowledge which civilized students have of what the correction ought to have been. Our system of adding a day every four years produces a calendar very nearly correct. The error between the time of Julius Caesar and the year 1752 amounted to only eleven days all told. We can say at once, however, that the probabilities are all against the Aztecs having made this correction of one day in every four years, or any equivalent interpolation. Lacking instruments of precision and chronometric appliances, and being also without real written records,

<sup>28</sup> See, for example, the *Codex Magliabecchi* (Nuttall, 1903), pp. 63, 79, etc.

such an interpolation on their part would have been a most surprising accident.

All the theories and commentaries written by modern scholars on the question of Aztec intercalation are based on relatively few original sources. By an original source is meant, in this connection, accounts obtained by people who were actually in contact with the Aztecs before their calendar lore was lost. The following list represent a few of the most frequently quoted of these "original" authorities (page 319, upper half).

On the soil afforded by the sources named, a number of curious and interesting theories have blossomed. The theories concerning intercalation are distinguished, first, by their variety, and secondly, by their ingenuity. No one of them seems to my mind, under the conditions given, to be plausible. It is only fair to state that the most ancient accounts exhibit about as much diversity as the most recent critiques. In the case of Sahagun, for example, we find the original author virtually contradicting himself.<sup>29</sup> The variety of the modern opinions in the matter of intercalation is brought out quite clearly by putting them side by side in the form of a tabulation (page 319, lower half).

So much for the evidence of intercalation on the positive side. There is certain evidence, however, that seems to indicate that the Aztecs must have been unacquainted with the whole principle of calendar correction. Of first importance is the curious fact mentioned by Seler<sup>31</sup> that when Sahagun talked with certain "old men, the most skilful possible," at Tlaltelolco, forty years after the Conquest, their reckoning of the events of that Conquest were already ten days in error. It seems impossible to over-emphasize the importance of such evidence as this. It is of vastly more significance than any number of statements from the Indians as to what their custom was or was not. The hard facts in the case seem to partake of the nature of a demonstration, either that they had no intercalation, or, if any such principle was employed, that they applied it only to periods of over forty years duration. Another bit of negative evidence

<sup>29</sup> Compare the doubtful statements in the second book, chapter 19, with the vigorous ones contained in the Appendix to the fourth book.

<sup>31</sup> 1891, p. 19.

Some of the More Important Original Sources for the Study of the Aztec Calendar  
(Other than Native Manuscripts)

Author	Principal Work	Date of Composition	Date of Publication
Fernando de Alva Ixtlilxochitl	Historia Chichimeca	1609-1616	In Kingborough, London, 1831; also in Ternaux-Compans, 1836.
Toribio de Benavente, called "Motolinia,"	Historia de los Indios de Nueva España	1541	Paris, edited by Bertrand, 1840; Mexico, edited by Chavero, 1891.
Bernardino de Sahagun	Historia general de las cosas de Nueva España	1540-1569	Mexico, edited by Bunsen, 1829; Paris, edited by Jourdanet and Siméon, 1880; also in Kingborough, London, 1831, and in Ixtlilxochitl, Mexico, 1858.
Jacinto de la Serna	Manual de los Ministros de las Indias	1656	In Anales del Museo Nacional, Mexico, 1899.
Juan de Torquemada	Monarquia Indiana	1589-1609	Sevilla (Madrid?), 1615. Ed. 2, edited by Gonzalez-Barcia, Madrid, 1878.
An Unknown Friar	Crónica de la S. Provincia del Santísimo Nombre de Jesus de Guatemala	1683	

VARIOUS AUTHORITIES ON INTERCALATION

Author	Theory of Correction	Reference	Based on
Zelia Nuttall	18 days added every 52 years	1904, p. 486	Serna, Sahagun.
Carlos Sigüenza (followed by Olaviego, 1870)	18 days added every 52 years	Ciclografa Mexicana (work lost, 17th century)	Supposed to be based on certain Ixtlilxochitl manuscript.
Antonio Leon y Gama (followed by Troncoso)	25 days added every 104 years	1792, p. 52	Hypothetical reconstruction of the calendar.
Mannel Orozco y Berra	13 and 18 days added alternately every 52 years	1880, vol. 2, p. 60	Codex Borja (which he undoubtedly misinterpreted).
Jose Fabrega (followed by Von Humboldt)	7 days suppressed every 1040 years	1899, p. 146	Ministerpretation of Codex Borja, pp. 62-66.
Eduard Selzer	10 days added every 40 years	1908, p. 49	Sahagun.
Various authors*	1 day added every four years		
Eduard Selzer	No intercalation employed	1891 translation, p. 21	Sahagun, Motolinia, Torquemada, Franciscan Chronicle.

\* Referred to by Pears, in the Cyclopaedia of Religion and Ethics, article "Calendar: Mexican."

is of an equally uncompromising nature: None of the ancient manuscripts show any trace of intercalation, though some of them involve rather longer periods of time. This latter statement applies with particular force to the Vatican manuscript 3738 (Vatican Codex A).<sup>32</sup>

All the arguments for intercalation seem to involve one fundamentally wrong conception. There exists a school of thought which sets up, in this part of the New World, a strong centralized government, with a king at its head, whereas there existed in all probability merely a weak confederation of utterly democratic Indian pueblos, directed by a war-chief who was elected to supervise military operations merely. Some of the ideas expressed concerning the calendar seem to hinge on this misconception. Not enough attention has been paid in this connection to Bandelier's papers.<sup>33</sup> The works of many European writers on American institutions still involves thrones and principalities, crowns and scepters, very much as though Bandelier had never written. The usual assumption is that, granted the existence of an empire, there must have been in ancient Mexico some one universal system of calendar correction, and that it is our duty to find out what this system was. There is, as a matter of fact, some reason to believe that there was in the last analysis no fixed, authoritative calendar, to say nothing of an official system for correcting it. Considerable evidence is available that the whole Mexican system was in a formative and somewhat chaotic condition. It may be well to enumerate some of the points that would suggest this conclusion.

Sahagun tells us, for example, that the beginning of the Aztec year differed greatly in different places. When he himself wished to find out with what day the year began, he had to call a conference of "old men" and "scholars," and they disputed over the matter "for many days." Finally, apparently as a compromise, they decided on February 2.<sup>34</sup> In other words, the required date was not a matter of fact; it was a matter of

<sup>32</sup> Consult Seler, in the passage just mentioned.

<sup>33</sup> "On the art of war and mode of warfare of the ancient Mexicans"; "On the distribution and tenure of lands and the customs with respect to inheritance among the ancient Mexicans"; "On the social organization and mode of government of the ancient Mexicans." 1880.

<sup>34</sup> 1831, p. 192.

opinion, and involved the reconciliation of conflicting reckonings. In this connection it is furthermore worth noting that even the names for the day-signs varied apparently from pueblo to pueblo. A very interesting list of day-signs from Mezitlan, quoted by Seler,<sup>35</sup> has a sign "Earth Goddess" in the place usually occupied by Water-monster. This same list differs from that of Mexico City in having "Young Maize Ear" in place of Lizard; "Milling-stone" in place of Vulture, and "Tooth" instead of Grass. It seems probable that additional lists from independent localities, or from a number of different pueblos, would reflect even greater variety in the names for the separate days. In view of these facts, it does not seem proven that there was any universal or regular system of calendar reckoning among the Aztecs. We must remember, also, that intercalation is hardly more than a novelty in Europe. Until the time of Julius Caesar, our own European calendar was a very helter-skelter institution. The pontiffs of republican Rome "squared" the calendar with the seasons as the emergency arose, and as opportunity seemed to offer. From what we know of Mexican civilization in general, with its independent towns and distinct linguistic areas, it seems highly unlikely that the ancient peoples there had any better arrangement than the Roman one. The evidence and the probabilities are vastly in favor of the idea that no regular system of calendar correction existed in ancient Mexico.<sup>36</sup>

#### ORIGIN OF THE CALENDAR SYSTEM

It remains to discuss the origin and basis of this series of calendar symbols. Concerning the actual evolution of the signs, nothing is known. To discuss the matter with any degree of profit, access to considerable collections of the more ancient Mexican monuments would be necessary. Perhaps with a study of such monuments it would be possible to establish the evolution of the system in a general way. It is also impossible to say why the particular twenty objects which appear in the ordinary

<sup>35</sup> 1900-1901, p. 7.

<sup>36</sup> Compare Preuss, in the *Cyclopaedia of Religion and Ethics*, article "Calendar: Mexican," where similar conclusions are briefly expressed.



*tonalamatl* were chosen. Resemblances of a rather striking sort exist between the calendars of Mexico and, for example, China. The analogy embraces not only the arrangement of dates in cycles, and the method of combining signs with numerals, but in some cases even identity of the signs employed. For that matter, there are undoubted points of analogy between the Aztec signs and certain of the signs of our own zodiac. However, to put forward the claim, which is occasionally heard, that such resemblances are proof of contact, or of a migration from China, is to run counter to the entire trend of the evidence of Mexican archaeology as a whole. It becomes constantly more obvious that the civilization of Middle America was really an autochthonous development, though discussion on the matter is still heard. It may be taken for granted, therefore, that we must look for the development of the Middle American calendar system on the spot. So far as I know, however, no one has tried to treat the subject historically. The effort so far has been to account for the development of the calendar, especially its numerical elements, on a psychological basis.

#### *The Reason for Twenty as a Factor*

The one solitary point on which students of the Aztec calendar agree concerns the reason for the selection of *twenty* day-signs. This factor twenty is assumed to have its foundation in the Aztec numeral system. The Aztecs, that is to say, like many nations of ancient and modern times, had a system of numbers based on twenty instead of on ten. A very interesting discussion of this system may be found in Cyrus Thomas' paper "Numeral systems of Mexico and Central America."<sup>87</sup> It stands quite to reason that their numeral system must have developed much earlier than their peculiar calendar. No further explanation is needed, therefore, in the opinion of many scholars, for the fact that they chose twenty day-signs. It seems, on first glance, to be just what would have been expected from a knowledge of their arithmetic.

<sup>87</sup> 1897-1898, b.

### *The Reason for Thirteen as a Factor*

When we consider the fact, however, that the twenty day-signs were combined with thirteen numerals we are confronted by a genuine puzzle. Opinions about the reason for the existence of a series of thirteen numerals are almost as numerous as the authors who have discussed the subject. If, as a matter of fact, the existence of a vigesimal numeral system led to a selection of twenty symbols, we should certainly expect it to lead to the selection of twenty calendar numerals. Why do we find only thirteen? The artificial character of most of the hypotheses concerning this point is made evident by merely putting them side by side.

#### VARIOUS SUGGESTIONS TO ACCOUNT FOR THE ELEMENT THIRTEEN IN THE CALENDAR

1. The factor thirteen appears because the most important parts of the body are thirteen in number: namely, the ten fingers, *one* ear, *one* eye, and the mouth. (Förstemann.)<sup>38</sup>
2. Thirteen represents the period of the moon's waxing, or waning.<sup>39</sup>
3. Thirteen was chosen because the ancient Mexicans had a conception of thirteen heavens. (Förstemann.)<sup>40</sup>
4. The title-page of the Tro-Cortesian codex has a representation of the four cardinal points, counting in both directions, followed by the symbols for the zenith and nadir, and another one unfortunately obliterated. Above these are written the numbers one to thirteen. Does this account for the thirteen of the calendar? (Cyrus Thomas.)<sup>41</sup>
5. The Aztecs established a year of 364 days, because they needed for the year a quantity divisible by 4. The quantity (364) factors into  $4 \times 91$ , also into  $28 \times 13$ . Hence 13. (Förstemann.)<sup>42</sup>
6. Thirteen is derived from the fact that 8 solar years are equivalent to 5 "Venus" years. The Aztecs, in devising their calendar, chose a unit consisting of a combination of 8 and 5. Hence 13. (Seler.)<sup>43</sup>

<sup>38</sup> 1893, p. 494.

<sup>39</sup> This suggestion is mentioned by Preuss in his article on the Calendar to which reference was made above (footnote 37), and by Bowditch (1912, p. 266).

<sup>40</sup> 1893, p. 494.

<sup>41</sup> 1897-1898 b, p. 954.

<sup>42</sup> 1893, p. 494.

<sup>43</sup> 1900-1901, p. 17 (following Troncoso).

These suggestions, while more or less ingenious, are rather obviously artificial. The points involved in the first suggestion, for example, would, if logically carried out, have resulted not in the selection of thirteen numerals, but of some other number. If, in making up a list of the most important parts of the body, they were to count all ten fingers, half at least of which are exactly like the other half, and which are not individually organs of supreme importance, they would certainly have counted both eyes. As regards the second suggestion, considerations of fact thrust themselves forward. The actual period of the moon's waxing is not thirteen days. Besides, if the moon had had any effect on the evolution of the Aztec calendar, we would certainly look for some traces of a lunar month. Nothing is simpler than to count from one full moon to the next. The Aztecs would hardly have made half of the moon's period an element in their calendar and ignored the full period. The next two suggestions in the list involve what is probably a logical inversion. It seems likely that if the Aztecs conceived of thirteen heavens, or thirteen gods of the day, it was because, for calendric or other reasons, the number thirteen was already uppermost in their consciousness. The number thirteen seems, as a matter of fact, to be rather important in their institutions. Thus there were thirteen divisions in the Mayan armies; there are thirteen serpents in the Tzental mythology; and to the Cakchiquel the thirteenth day was sacred.<sup>44</sup> It is, however, as plausible to consider these ideas a derivative from the calendar as to turn the proposition the other way about.

The most abstruse theory is that of Förstemann (number 5 in the list just given). He assumes that the Middle American peoples began by having a year of 360 days. Finding it too short, they increased its length not to 365 days, but to 364, because for personal (and it must be added, quite mysterious) reasons they wished the number of days in the year to be divisible by four. But a year of 364 days naturally divides itself into subdivisions of twenty-eight days, and there are thirteen of these subdivisions. Hence the thirteen of the calendar. Aside from its highly elaborate character, this theory does not account for

<sup>44</sup> Cyrus Thomas, 1897-1898 b, p. 953.

the fact that the Aztecs selected the thirteen rather than the twenty-eight, or for that matter, rather than ninety-one, which is as much a factor of 364 as are the other two quantities.

If Förstemann's theory is the most abstruse, the one advanced by Seler enjoys the distinction of being the most complicated. His hypothesis involves his favorite idea that the Mexicans laid stress on a "Venus" year of 584 days. He is struck with the fact, which is in a sense a curious one, that five of these Venus years make up a period exactly equivalent to eight solar years. He then makes the assumption that the Aztecs chose, as the basis of their calendar, a period consisting of these two periods taken together, or 949 days. The greatest common divisor of 365 and 584 is 73; the solar year is five times, the Venus year eight times, and the "basic" period thirteen times this factor. Hence the element thirteen. If Seler's theory is true, it must be borne in mind that while these computations were being carried out in the mind of the ancient inventor of the calendar, the days were still nameless. They derive their names by the combination of certain signs with these very thirteen numerals whose origin we are discussing. Seler assumes therefore that the Aztec dealt with such large numbers of days as 949, and traded such groups of days about in their minds, before they had names for any of them. In other words, he assumes that the Aztecs became skilled mathematicians, noted carefully the length of solar and planetary periods, and only after that sat down to invent names for their days. There is no evidence in the whole of human history that institutions develop in this way. The probabilities of such a development having occurred with the calendar of the Aztecs are, it seems to me, too remote to make the theory worth elaborating.<sup>48</sup>

Some scholars try to explain, not the occurrence of thirteen as an element in the calendar, but the occurrence of the *tonalamatl* of 260 units. If for the first step the Aztecs recognized 260 as a fundamental quantity, and for the second step selected twenty day-signs because the vigesimal character of their numerals suggested such a course, they would derive the third

<sup>48</sup> It is only fair to remark that Seler, judging from his phraseology, seems to feel somewhat the same way about it himself.

element by dividing 260 by 20, thus getting 13. Several explanations, as a matter of fact, have been advanced which account for the element 260 directly. Someone has suggested that nine was a sacred number, and that 260 represents the total number of days in *nine* lunations. This hypothesis has been mentioned favorably by Mrs. Nuttall.<sup>46</sup> Aside from other objections, nine lunar months give, as a matter of fact, not 260 but approximately  $265\frac{1}{2}$  days. Another hypothesis, which dates from very early times (possibly from Motolinia)<sup>47</sup> is based on the idea that 260 days represented the period of visibility of Venus. This hypothesis might at least be discussed if Venus really were visible for 260 days. Unfortunately, nothing of the sort is the case. As remarked by Beuchat,<sup>48</sup> the 260-day period does not correspond to the duration of any known astronomical phenomenon. Still another hypothesis derives the importance of 260 days, and the use of that period in the calendar, from the fact that pregnancy occupies that time. This last suggestion would perhaps be the most plausible of the lot if pregnancy lasted for that period. It has been advanced by Mrs. Nuttall,<sup>49</sup> before her by Förstemann,<sup>50</sup> and before him by Torquemada. Aside from its relative simplicity, it seems to have little in its favor.

Goodman, whose monograph was probably the most important single contribution to the subject,<sup>51</sup> holds the opinion that the 260 is not necessarily based on the combination of twenty and thirteen, but that it became established because it was a unit that divided up very conveniently in a number of ways.

Everything considered, I am inclined to advance the conviction that the factors thirteen and twenty are the original elements in the *tonalamatl*. It would seem most plausible, other things being equal, to suppose that these two simple factors evolved in some way, and that the *tonalamatl* is the product of them. Very likely there was a simple and practical reason which led to the selection of these two factors in the first place. It may

<sup>46</sup> 1904, p. 495.

<sup>47</sup> See Seler, 1900-1901, p. 16; Nuttall, 1904, p. 495.

<sup>48</sup> 1912, p. 334.

<sup>49</sup> 1904, p. 495.

<sup>50</sup> 1895, p. 532.

<sup>51</sup> 1897, p. 29.

safely be said, however, that this reason is not obvious at the present time.

### *Derivation of the Calendar Symbols*

Reference has been already made to the fact that the calendars of all the more highly civilized peoples of Middle America have many points in common, and are constructed along practically the same lines. It is obvious at once, therefore, that there is opportunity offered for the most interesting comparative study. Such investigations have been carried out with gratifying results by Professor Seler. Two of his works are of especial interest from this point of view, namely, his "Mexican chronology with especial reference to the Zapotec calendar,"<sup>52</sup> and his monograph on "The *tonalamatl* of the Aubin collection."<sup>53</sup> Discussion as to the probable place of origin of the calendar, and the derivation of its signs, is therefore unnecessary here. Of the two papers mentioned, the latter in particular contains a systematic presentation of the affiliations of the whole series of symbols, in order.<sup>54</sup> The matter may be dismissed in the present connection with the remark merely that Professor Seler's evidence in these two papers is almost entirely of a linguistic character. Archaeological evidence has never been applied to this question.

### *Probable Line of Evolution*

There are really two types of explanation possible for the existence of this complex calendar—gradual evolution or sudden creation. Of the two hypotheses I vastly prefer the first, on general principles. Discussion will be out of place, however, until we have some actual data to discuss. Some of the most distinguished Americanists, on the other hand, seem to regard the calendar as a sudden invention. Seler, as quoted above, views the calendar in its entirety as the product of some one author or set of authors, working consciously toward the elaboration of a system. Mrs Nuttall<sup>55</sup> also voices the belief that the

<sup>52</sup> 1891.

<sup>53</sup> 1900-1901.

<sup>54</sup> *Op. cit.*, pp. 9-16.

<sup>55</sup> 1904, p. 494.

system had an inventor (not to describe him more definitely) who actually had in view, and provided for, an epoch of 1040 years. He is supposed to have made provision in his calculations for 260 Venus periods, rectified by 260 separate five-day corrections, and to have provided for twenty intercalations. She seems to regard the twenty day-symbols, the *tonalamatl*, the whole complex institution, as the product of one tremendous cerebration. Though I profess myself unable to discuss the evolution of the system in definite terms, I wish to register my profound unbelief that it took any such line as this. The chances are, it seems to me, that the calendar has an actual history—a history of gradual accretion, change, and elaboration. I am inclined to think that the Aztec calendar system frequently suffers from being considered apart from its setting. It is important to remember that it was the work of Indian tribes who had hardly passed beyond the threshold of civilization. While elaborate, it is, like many primitive achievements, rather awkward and inefficient even in its perfected form. The operation of the Mexican calendar system recalls the faults of their method of picture-writing. Both institutions impress one with a sense of their futile ingenuity. Any writer who treats of the Aztec calendar ought, I think, to preserve in his mind a very lively picture of the Indian pueblos in which it developed. It is certainly absurd to put the Mexican calendar on a plane of equality with the calendar systems of those nations of the Old World who had written records, and at least the beginnings of science. Further than to insist that the calendar probably has a history, it seems impossible to go.

#### THE DELINEATION OF THE CALENDAR SYMBOLS IN THE MANUSCRIPTS

We have seen that the various calendar symbols represent, at bottom, actual objects or phenomena. A possible exception occurs in the case of the "Motion" or *Olin* symbol, in which the graphic element seems to be obscured, if it ever had one. A good many tendencies operate in the case of most Aztec calendrical signs to change their original character. The simplest

of these tendencies is perhaps the mere desire for ornamentation or decoration. The native artist at times seems to regard the calendar signs as an admirable field for the expression of artistic taste. This is illustrated very well by the treatment of the serpent's head, used as the day-sign Snake or *Coatl*. Figure 4 represents the various manners in which this design is elaborated. In the drawings shown in the figure the general outline has not been seriously modified. The various artists do, however, show considerable discrimination in the choice of different styles of ornament which they apply.

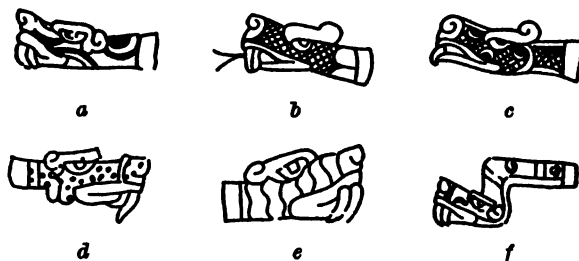


Fig. 4—Different Styles of Ornamentation applied to the Serpent Head

a, Vatican B, p. 4; b, Nuttall (Zouche), p. 4; c, Nuttall (Zouche), p. 61; d, Vatican B, p. 4; e, Vatican B, p. 5; f, Vatican B, p. 81.<sup>56</sup>

The same point is brought out very clearly in the case of the different representations of Water-monster (*Cipactli*). This is illustrated in figure 5. The head in every case is reptilian in contour, possesses a prominent eye-plate, and is characterized by the presence of a row of enormous triangular teeth. The surface of the head is elaborated into spots, vertical lines, bars and dots in a variety of arrangements.

The first point in the study of the day-signs, as they are delineated in the manuscripts, is therefore that there is evident considerable play of the artistic impulse. As a result, many fanciful modifications of the original idea are in each case to be looked for.

Another point deserving emphasis is this: that the native artists, in delineating day-signs, were dealing with subjects per-

<sup>56</sup> See note 15, p. 305.



fectly familiar to themselves and their audience. They were at liberty therefore to reduce their pictures to the most naked symbols without danger of being misunderstood. Moreover, the signs in many manuscripts occur in a regularly established sequence, and in many cases the identity of a symbol may be

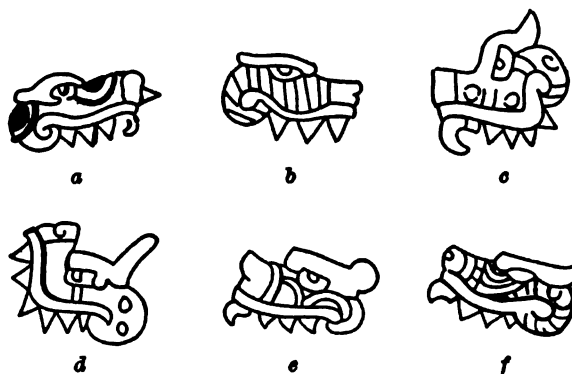


Fig. 5.—Ornamental Elaboration in the Decoration of the Water-monster Head

*a*, Vatican B, p. 4; *b*, Vatican B, p. 7; *c*, Vatican B, p. 67; *d*, Vatican B, p. 71; *e*, Vatican B, p. 1; *f*, Vatican B, p. 2.

determined as readily by its place in the series as by its appearance. In many cases, accordingly, we encounter symbolism run rampant. The symbols occur, in fact, in all stages of denudation. It would be easily possible, on the basis of the material in the manuscripts, to "trace the development" of the more simple and conventionalized designs from the more complicated and realistic ones, by the old device of putting the realistic at one end of a series and the conventional at the other. It is, however, worthy of note in this connection that we often encounter a highly complex form of a sign and a highly simplified one, side by side, on the same page (see fig. 6). In other words, the native artist apparently had complete forms of these day-signs always in his mind. Sometimes in writing down a given sign he would choose one or two features only, and in other cases would put them all down, with elaborate ornament in addition, if the space permitted and the humor struck him. One thing is perfectly evident from

a study of the available manuscripts: that in the execution of the day-signs, a considerable part is played by caprice.

These conditions permit almost unlimited convergence in the various designs, making it practically impossible in some cases

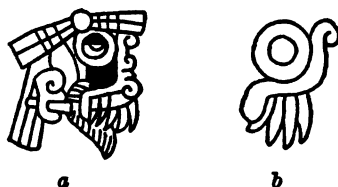


Fig. 6.—Two Forms of the Day-sign Rain (*Quiahuitl*), representing the Rain-god, *Tlaloc*

*a*, Human face with a goggle eye and long teeth; *b*, the same simplified. (Both from Nuttall (Zouche), p. 9.)

to identify a symbol when taken from its context. This is illustrated in figure 7. There is general similarity between the first two drawings (*a* and *b*), yet they represent quite independent day-signs, Flower and Cane. An even more extreme case is shown in *c* and *d* of this figure. *c* represents a human jawbone surmounted by an eye, and the whole accompanied by a tuft of grass. The whole composite figure represents the day-sign Grass.

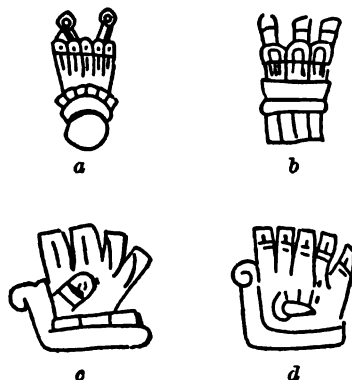


Fig. 7.—Drawings Similar to Each Other but Standing for Distinct Ideas

*a*, Flower (*Xochitl*), Vatican B, p. 7; *b*, Cane (*Acatl*), Vatican B, p. 11; *c*, Grass (*Malinalli*), Vatican B, p. 18; *d*, Water (*Atl*), Vatican B, p. 82.

*d* is a conventionalized representation of a vessel of water with a shell in it (see figs. 20 and 25) and stands for the day-sign Water. Yet the two symbols *c* and *d* certainly look as though they were intended to represent the same idea. This variability and convergence may be best discussed in connection with individual studies of each of the day-signs, and the various forms assumed by them. The tendencies just pointed out will be found to operate in the case of each of the day-signs taken up in the remainder of the paper.

#### THE TWENTY DAY-SIGNS: THEIR CHARACTERISTICS AND VARIATIONS

The effort has been in the following pages to collect the most divergent examples possible of the twenty day-symbols and to put them side by side for comparison. A good many Mexican manuscripts have been omitted from the returns submitted in this paper because they contained drawings of Europeans and European objects, and were therefore obviously late. Prominent among the manuscripts of this class which have not been considered are the Vatican Codex A (3738), and the manuscripts mentioned above, published in facsimile by the Junta Colombina in Mexico City<sup>57</sup> (the Codex Porfirio Diaz, the Codex Baranda, the Codex Dehesa, etc.). A good deal of material has thus been passed over as too inexact for the present purpose. Conspicuous in this category are the reproductions in Lord Kingsborough's enormous *Mexican Antiquities* already mentioned. Here the day-signs are so imperfectly drawn that any discussion of their forms would be wasted effort. The drawings in the Aubin manuscript, some of them reproduced below, are much worse than any of those in Kingsborough. The peculiarities of the day-signs in it are obviously the mere effect of ignorance and bad draughtsmanship. The Loubat edition of this manuscript constitutes a perfect copy of a defective specimen. The variant forms it contains have therefore a certain interest.

Wherever possible, the day-signs illustrated below have been compared with realistic drawings of corresponding objects. Study of these graphic drawings throws considerable light on

<sup>57</sup> See Chavero, *Antigüedades mexicanas*, 1892.

features of the day-signs which might otherwise be obscure. It is only fair to assume that the day-sign, where it is not realistic, is a simplified and conventional version of the graphic representation. It will in some cases be seen that the drawings which appear as day-signs are curious, not purely because they are day-signs, but because the Aztec artist had limitations even where he tried to be realistic. The realistic drawings which appear below are selected in every case from the list of original manuscripts which supplied the day-signs illustrated.

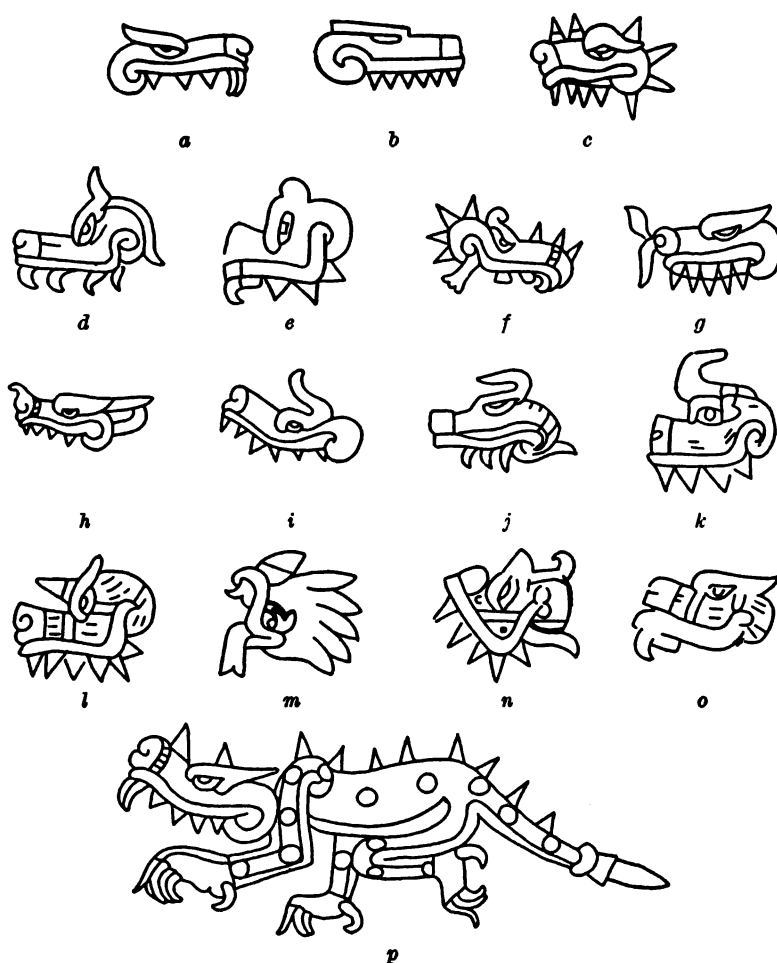


Fig. 8.—a-o, The Day-sign Water-monster (*Cipactli*);

*Water-monster (Cipactli)**Sources of drawings (fig. 8):*

a, Nuttall (Zouche), p. 76	i, Nuttall (Zouche), p. 47
b, Vatican B, p. 47	j, Vatican B, p. 80
c, Nuttall (Zouche), p. 35	k, Vatican B, p. 50
d, Vatican B, p. 87	l, Vatican B, p. 59
e, Vatican B, p. 73	m, Aubin, p. 13
f, Bologna, p. 3	n, Vatican B, p. 58
g, Nuttall (Zouche), p. 4	o, Vatican B, p. 5
h, Fejervary, p. 28	p, Nuttall (Zouche), p. 75

The drawings in figure 8 represent various forms of the day-sign Water-monster (*Cipactli*). The final drawing in the series (*p*) gives what must be regarded as an attempt at representing this animal realistically. This latter drawing (*p*) was selected from a page of the Codex Nuttall (Zouche manuscript) which represents a group of warriors moving in canoes to the assault of an island town. In the scene as given in the manuscript there is drawn a lake, containing in its depths, in addition to the present figure, a fish, several shells, and a snail (Codex Nuttall (Zouche manuscript), p. 75). The resemblance between the different forms of the first day-sign and this realistic drawing of a monster in the water, lend ample color to the name Water-monster applied to the day-symbol. The word *Cipactli*, the Aztec name of the day-sign, seems to mean first of all "prickly."<sup>58</sup> It is applied in the old vocabularies to an animal described as a "big fish like a cayman" (alligator). The corresponding day-sign of the Zapotecs of southern Mexico has a name defined as "great lizard of the water." It seems rather likely, all things considered, that the realistic drawing shown below (*p*, fig. 8) and the day-signs which so closely resemble it, are all intended to represent some of the American crocodilia. A glance at figure 8, *p*, however, will show that it is possible for even the realistic drawings of the animal to represent him as lacking a lower jaw. This absence of the lower jaw is quite a constant feature of this day-sign wherever it occurs. Other prominent features of the day-sign are a large eye-plate, which occurs quite uniformly, and large sharp teeth. In the realistic picture the creature is represented with spines

<sup>58</sup> Seler, 1900-1901, p. 9.

along his back, and on top of his snout. The spines along the backbone are a counterpart of those which occur on the actual animal. Those along the nose and head, however, are artificial additions. A study of figures *c*, *f*, and *p* of figure 6 makes it seem rather likely that these latter "spines" are in their origin merely additional teeth which have wandered up from the lower part or mouth part proper. On the other hand, they may be additions suggested to the Mexicans by their familiarity with horned lizards or "horned toads," which, barring size, are animals somewhat like the alligator but possessing horny or spiny heads.

The teeth shown in the different forms of this day-sign are worthy of remark in a general way. Figure 8, *d*, comes nearest to representing realistically true crocodilian dentition. The triangular teeth shown in *b*, a more usual type in the manuscripts than the others, seem to be merely conventionalized forms. The Water-monster signs have in their outlines at least a family resemblance to the sign Snake, or *Coatl* (see fig. 13). This resemblance has apparently affected the dentition given to the Water-monster, who is often provided not only with teeth, but with serpent fangs. The distinction between the two types of teeth is clearly made in the drawings lettered *a*, *e*, *f*, figure 8, and is perhaps suggested in *p*. In *m* we see not only a snake-like fang, but the forked tongue of the serpent as well. These points, suggested by or accompanied by an approximation in general form to the serpent type, seem to be purely a case of borrowing.

In a few of the drawings a nose-plug is exhibited (*g* and *m*). This is a purely human article of adornment, and one that is seen in many warrior and priestly figures in the manuscripts. In figure 8, *l*, the combination of a spine and an eye-plate looks almost like a sort of cap. The tail in figure 8, *p*, terminates in a flint knife, or a figure very much like the flint knives illustrated in figure 35.

In connection with the symbol Water-monster, Seler makes a remark which is in my opinion a sample of what ought to be avoided. He observes that the spikes on the top of the Water-monster's head are intended to represent stone knives. He "proves" that this is their original meaning by referring to a

page in the Codex Borbonicus, in which the spikes have the form of stone knives. There is a logical weakness here. In some manuscripts we find the Eagle's feathers also taking the form of flint knives (fig. 32, *g*). That does not prove that the feathers were originally drawn as flint knives. There is in general so much arbitrary simplification and elaboration in the representation of all the signs, that to light on any one variant and call it the original form is a waste of time. The only means we have of judging what the original form may have been is to find a representation of a given object which is evidently intended to be graphic. When, for example, the artist in the case of the *Cipactli* sign, which we are discussing, draws a monster in the midst of a lake surrounded with realistic representations of fish, snails, and bivalve shells, as in the case with the original of figure 8, *p*, it is only a fair guess that he intends his drawing to be realistic; and such a drawing probably represents his idea of what the animal really looks like. It is at least plausible to refer to the features of such drawings as the original ones. Even this is not really conclusive. The characteristics of the graphic representation may be affected by features borrowed from the familiar day-symbols. It would certainly be more plausible in the case of Seler's flint knives to make an assumption directly the contrary of Seler's, and say that his flint knives of the Codex Borbonicus are elaborated and re-interpreted teeth or spikes. It is hard to believe that the day-sign Water-monster could have begun its career in a form so peculiar as that of an animal set about with stone knives.

Seler's papers show another tendency which deserves comment. He often refers categorically to certain traits as characteristic of a given day-symbol. If one deliberately collects as many variant forms as possible of one day-sign, it is hard indeed to find any one feature which occurs in all of them. To give a specific example, Seler says that in representations of *Cipactli* "a row of spikes runs . . . along the vertical line of the head."<sup>50</sup> The drawings *a*, *b*, *e*, *g*, *h*, and *i* in the present figure, all six of them very beautifully drawn, are without this feature. The

<sup>50</sup> 1900-1901, p. 9.

absence of hard and fast rules of this sort will be emphasized in discussing others of the signs below.

One other feature of the Water-monster designs is worth mentioning. I refer to the artistic value of most of the heads as decorative objects. Most of these heads present a thoroughly picturesque appearance. The eye-plate is nearly always more or less flamboyant, as is, in many cases, the figure as a whole. Figure 8, *a-i*, are more typical in this respect than are the others.

#### *Wind (Ehecatl)*

*Sources of drawings (fig. 9):*

<i>a</i> , Vatican B,	p. 52	<i>j</i> , Nuttall (Zouche),	p. 1
<i>b</i> , Vatican B,	p. 7	<i>k</i> , Vatican B,	p. 71
<i>c</i> , Bologna,	p. 1	<i>l</i> , Nuttall (Zouche),	p. 16
<i>d</i> , Vatican B,	p. 71	<i>m</i> , Nuttall (Zouche),	p. 16
<i>e</i> , Nuttall (Zouche),	p. 5	<i>n</i> , Nuttall (Zouche),	p. 18
<i>f</i> , Vatican B,	p. 3	<i>o</i> , Fejervary,	p. 35
<i>g</i> , Vatican B,	p. 1	<i>p</i> , Nuttall (Zouche),	p. 3
<i>h</i> , Nuttall (Zouche),	p. 62	<i>q</i> , Nuttall (Zouche),	p. 65
<i>i</i> , Vatican B,	p. 87		

The various forms of this day-sign represent the wind-god, *Quetzalcoatl*, a name meaning literally, "Feathered Serpent." The symbol is associated however with the word *ehecatl*, or "breeze." Figure 7, *q*, gives an idea of the way in which the deity is represented realistically. He has here the form of a human being, running, and carries on his left arm a shield, with javelins, and in his right hand the *atlatl*,<sup>60</sup> or spear-thrower. His straight hair and a full beard are shown in the picture. His nose is prodigiously elongated, and the parts of his face around the mouth have the form of a bird's beak. It is rather hard to tell by inspection whether these two features are supposed to represent the actual facial peculiarities of the god, or simply a mask worn by him. On his head is a pointed cap, represented in many places as made of tiger skin, and at the back of his neck is a very characteristic fan-shaped ornament. The remainder of his

<sup>60</sup> Consult Nuttall, 1892.



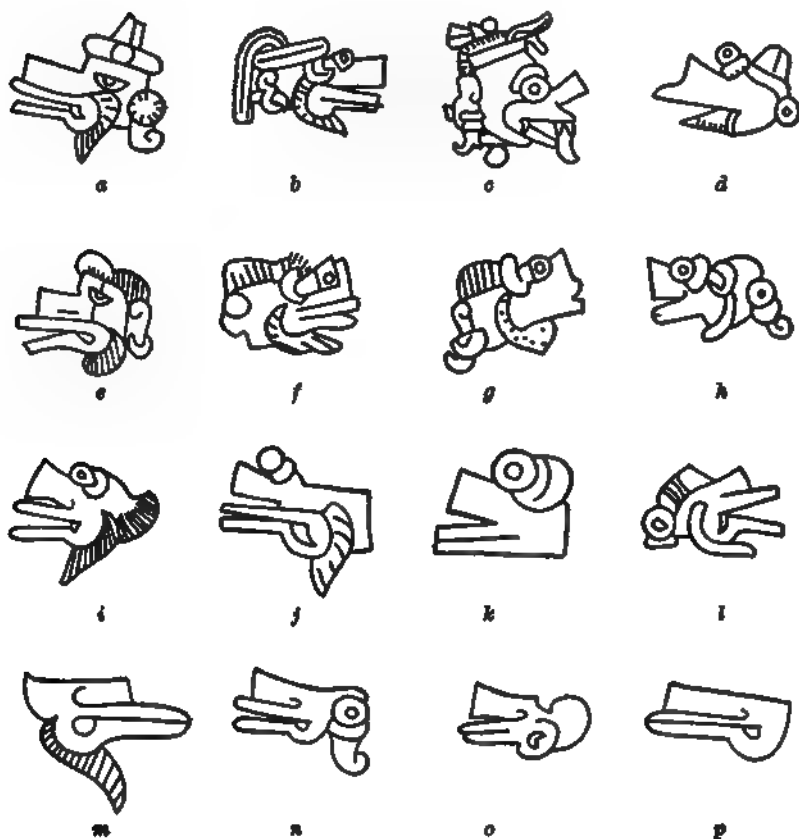


Fig. 2.—a-p, The Day-sign Wind (*Ehecatl*); q, Realistic Drawing of the Wind-god

costume is of the usual Aztec sort, consisting of a breech-cloth and sandals. The present drawing, however, shows in addition a necklace and a conspicuous ear-ornament. When we turn to the day-symbols shown in this figure, it is noticeable that they represent only the head of the divinity. A good many of the day-symbols in the manuscripts represent the head as described, with the hair, beard, cap, and mask or snout. Some of the manuscript drawings, on the other hand, are very much simplified. It would be quite easy to see in the present figure a "descending series" of drawings. Figure 9, *a*, for example which is a complete representation of the god with all the features, might be considered to represent the beginning of a process of degeneration, and figure 9, *p*, which is denuded of almost everything, the end of the process. It is even possible to fill in all of the steps between these two extremes, and to show how one by one the features might have dropped off. Figure 9, *a*, for example, has cap, beard, eye, ear-ornament, and snout. Figure 9, *e*, has lost the cap; *i* lacks the cap, and in addition has lost the ear-ornament. Figure 9, *g*, has lost, in addition to the foregoing the pupil of the eye; *m* has lost the eye altogether, retaining, of the original features, only the snout and beard. In *o* and *p* even the beard vanishes, and of the whole god nothing but the snout is left. The mouth of *a* degenerates in *p* to a mere line.

Such a series has, however, very little real meaning. The elaborate head shown in *e* was drawn by the artist who drew the simplified form shown in *p*, and the two drawings are on adjacent pages of the original text. Our text-figures therefore do not represent actual genetic series. It does seem possible, however, to interpret certain of the features present in the signs by a process of comparison. For example, some of the realistic drawings of the god represent him with a fang at the corner of his mouth. It seems likely that the fang is elaborated from a notch, which often occurs in exactly the same place and has very much the same appearance. If an "original" form is to be looked for, the notch might be interpreted as the down-curved mouth, which is the usual sign of old age, shown for example in figure 10, *b*. The fang form is especially clear in figure 9, *c*, *d*, and *l*. It seems rather likely that the notched disk below the corner of the

mouth in figure 9, *a*, represents this mouth-notch or fang, which has in this drawing wandered out of its proper place.

The eye in these representations of the Wind symbol does some curious things. In *b*, figure 9, it wanders out on the beak, and in *d* mounts up on a stalk. In drawings *f* and *h* this stalk becomes much elongated. The beard, too, shares in these changes. In figure 9, *f*, it loses its likeness to hair, retaining however its outline. In *g* the hair is replaced by speckles, and in *k* and *l* the whole beard degenerates into a mere sausage-shaped tag. Such series as are shown in figure 9, whether they represent



Fig. 10.—*a*, The Face of the Wind-god, showing down-curved mouth (Nuttall); *b*, a face with a curved mouth, a feature signifying old age

accurately the origin of the simpler forms of the day signs or not, at least enable us to recognize in the simpler forms many of the elements which make up the more complicated ones. A person, for example, who in examining a text encounters a form like *q*, figure 9, would certainly have some trouble in recognizing it as a form of the wind-god. Yet, by comparison with the more complicated figures it is possible to recognize in the simpler drawing the various elements which stand for the hair, the anout, and the beard. The proportions and the positions of the various parts merely are changed, while the identity of the figure remains unmistakable.

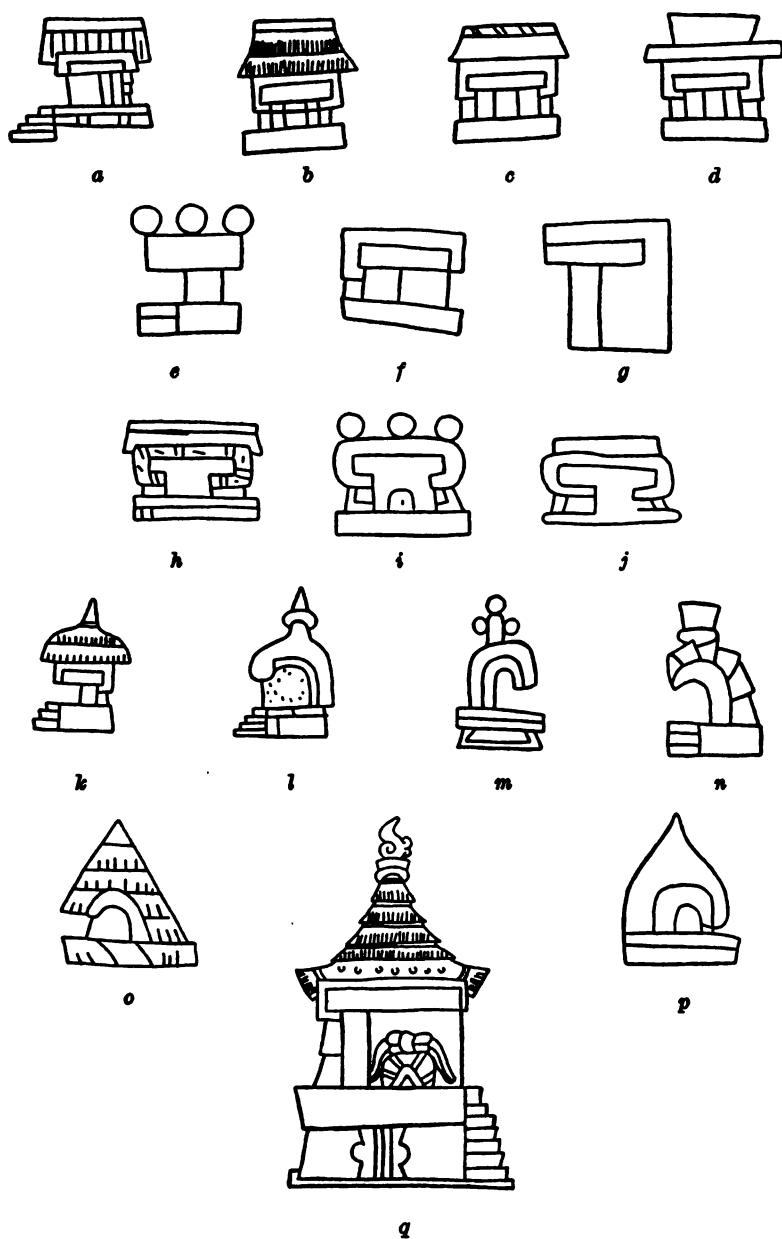


Fig. 11.—a-p, The Day-sign House (*Calli*); q, Realistic Drawing of a House

*House (Calli)**Sources of drawings (fig. 11):*

<i>a</i> , Vatican B,	p. 87	<i>i</i> , Vatican B,	p. 5
<i>b</i> , Nuttall (Zouche),	p. 56	<i>j</i> , Vatican B,	p. 4
<i>c</i> , Nuttall (Zouche),	p. 20	<i>k</i> , Fejervary	p. 30
<i>d</i> , Nuttall (Zouche),	p. 34	<i>l</i> , Vatican B,	p. 64
<i>e</i> , Fejervary,	p. 18	<i>m</i> , Vatican B,	p. 3
<i>f</i> , Nuttall (Zouche),	p. 31	<i>n</i> , Nuttall (Zouche),	p. 84
<i>g</i> , Aubin,	p. 1	<i>o</i> , Vatican B,	p. 71
<i>h</i> , Vatican B,	p. 8	<i>p</i> , Nuttall (Zouche),	p. 6

There are probably few day-signs in which the original forms are so completely obscured as in the case of the day-sign House. In its extreme form the day-sign appears merely as a hook (fig. 11, *m*), on a sort of a pedestal. The drawings in *k*, *l*, *m*, seem to show how this "hook" appearance evolves. *k* is a fairly convincing picture of a stone structure, I should say, with a thatched roof. If the evidence of the manuscripts is good for anything, this is the usual form of architecture in the Aztec or Plateau region, even for ceremonial edifices. Comparison with figure 11, *g*, brings out the principal features of such a structure. This latter represents, like *a*, *e*, and *k-p*, a cross-section through such a temple. To the right is the stairway leading up to the temple doorway. The doorway was made up of two uprights, either stones or timbers, with a third lying horizontally on them for a lintel (see fig. 11, *b-d*). According to Seler,<sup>61</sup> these posts and lintels are of wood. The artist, it seems, wished to exhibit this doorway but was not equal to drawing it in perspective, so he compromised by dragging it around to one side, and representing only part of it; that is, with only one of the uprights in place. The front wall of the temple, or at least the position of this wall, he represented by a mere thin line. The thatching, however, is plainly and quite correctly represented, for the temples had, as here indicated, "hip" roofs, thatched on all four slopes. The ridge seems to have been elaborated into some sort of ornament. This is shown at the top of figure 11, *g*. On the base or pyramid of the structure we see an earthquake or *olin* symbol (for which see fig. 34). In figure 11, *k*, the roof is rather

<sup>61</sup> 1900-1901, p. 10.

bulging or convex. In *l* the "peak" effect is reduced to a rudiment, and the drawing as a whole is more cursive in style. In figure 11, *m* and *n*, the artist seems to have had in mind not the original idea of a house, but such degenerate symbols of it as *l*, figure 11, which he permitted himself to reproduce in still more cursive fashion. In fact, in *m*, *l*, *n*, *o*, and *p* the likeness to a house is almost or entirely lost.

In *b*, figure 11, the front view of the house, or *calli*, is represented. We see here the thatched hip-roof, and the doorway of dressed stones or timbers. The artist, however, was apparently not equal to drawing a stairway in front view, so left it out. In *d* this doorway is drawn still more plainly. Here the artist seems to have tried to draw at the same time both the front and the gable ends of the roof, giving up, however, without being successful. In *g* the structure has been reduced to a remnant. We see here apparently a side view showing half of the door construction (compare *a*) and a line representing the back wall. Figure 11, *h-j*, represent this same front view of the structure, drawn, however, in cursive lines. The T-shaped inclosure seems to represent the outside line of the door construction, the opening having vanished. In this case, a study of the more complicated forms readily explains the simple ones such as *g*.

#### *Lizard (Cuetzpalin)*

##### *Sources of drawings (fig. 12):*

<i>a</i> , Nuttall (Zouche), p. 56	<i>g</i> , Vatican B,	p. 16
<i>b</i> , Nuttall (Zouche), p. 49	<i>h</i> , Fejervary,	p. 37
<i>c</i> , Nuttall (Zouche), p. 13	<i>i</i> , Vatican B,	p. 7
<i>d</i> , Vatican B,	<i>j</i> , Bologna,	p. 2
<i>e</i> , Nuttall (Zouche), p. 5	<i>k</i> , Aubin,	p. 19
<i>f</i> , Vatican B,	<i>l</i> , Vatican B,	p. 70

This is probably the least interesting of all the day-symbols, for the reason that it is nearly always carelessly drawn, and does not exhibit much variety at best. It is usually a sprawling figure with an uncertain number of legs straggling about, and a tail. I should say that the most characteristic thing in the drawing of the lizard is the loose-jointed way in which it sprawls on the page. One feature is noticeable in the drawings of lizard when

they can be examined in color. Half of the animal is normally red, the other half a sky blue. The division into two colors is represented by the line across the lizard's body in figure 12, *a*, *b*, *c*, *e*, and *g*. Seler's statement<sup>62</sup> that "the lizard symbol is



Fig. 12.—The Day-sign Lizard (*Cuetspalin*)

normally blue" does not apply to all the manuscripts. The arrangement of colors would possibly indicate that one of those species is intended whose under-surface is bright blue. To economize time, perhaps, the artists painted the animal half reddish and half blue, without bothering to be more realistic. At least this is a possible explanation of the curious arrangement of colors.

<sup>62</sup> 1900-1901, p. 10.

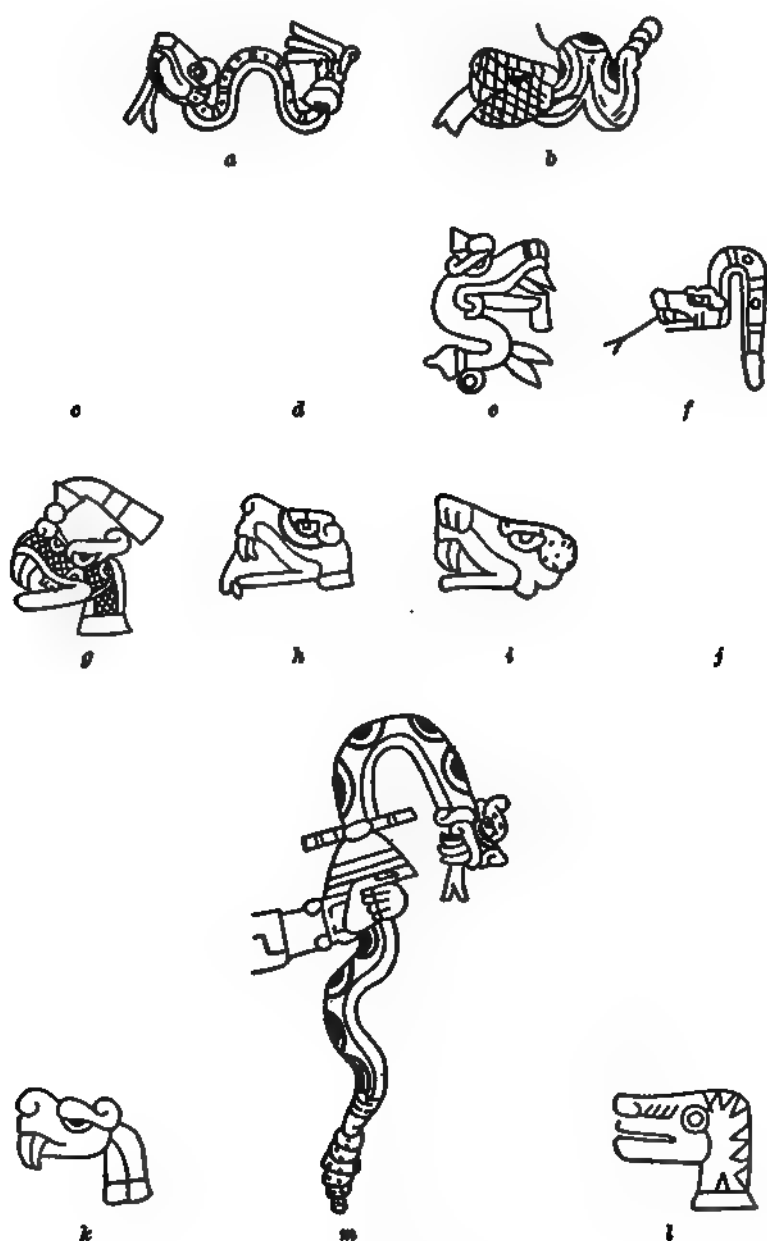


Fig. 18.—a-l, The Day-sign Snake (Coatl); m, Realistic Drawing of a Snake



*Snake (Coatl)**Sources of drawings (fig. 13):*

<i>a</i> , Borgia,	p. 5	<i>h</i> , Vatican B,	p. 67
<i>b</i> , Aubin,	p. 18	<i>i</i> , Vatican B,	p. 66
<i>c</i> , Bologna,	p. 7	<i>k</i> , Nuttall (Zouche),	p. 77
<i>e</i> , Bologna,	p. 4	<i>l</i> , Vatican B,	p. 71
<i>f</i> , Vatican B,	p. 74	<i>m</i> , Vatican B,	p. 45
<i>g</i> , Nuttall (Zouche),	p. 75		

Figure 13, *m*, represents a realistic drawing of a serpent chosen from a page in Vatican Codex B (manuscript 3773 in the Vatican library). The scene, or whatever it may be called, represents a human figure holding a serpent in its outstretched hand. The hand and part of the arm are reproduced in the present illustration, the rest of the human figure being omitted. The meaning of the device around the serpent just above the hand is not clear. The snake in this drawing, as in many of the day-signs, is plainly the rattlesnake. It is moreover quite accurately represented. The head exhibits, however, in place of one fang, a whole series of enormous ones projecting from the mouth. The plate over the eye is elaborated also into a sort of crest. It is interesting to note that figures of people holding snakes are fairly common both in Aztec and Maya art.<sup>22</sup> One can hardly help thinking in this connection of the well-known Snake Dance of the sedentary Indians of the southwestern part of the United States, in which performers dance holding serpents.

Many of the day-signs representing the serpent show the same characteristics as the realistic drawing just mentioned (for example, *a* and *b*, figure 13). The former of these two has an added feature, however, namely a plume at the end of the tail. Figure 13, *c* and *d*, represent the same serpent-figure knotted up in a sort of coil. In *f* the serpent is likewise complete, except that his rattles have degenerated to a mere button, and his outlines are not so conspicuously ophidian. In the remainder of the day-sign figures there is represented only the serpent's head. (Heads in general appear more frequently in the manuscripts as a day-sign than whole animals.) Many of these heads are thoroughly

<sup>22</sup> For the latter see Maudslay, 1889-1902, for example, vol. 4, pl. 33; Spinden, 1913, p. 49.

serpent in character. In one of them however (*g*, figure 13), we find a human nose ornament consisting of a "plug" with a flowing plume attached. In a few of the drawings the serpent head is very much debased. The one shown in *h*, for example, might well pass for the head of some other animal. In *j* we have only a jumble of lines, so formless that it is hard to recognize in them even such parts as the eye and the mouth. As a special instance of "debasement," attention is drawn to the figure shown in *l* which lacks the fang, though the fang is perhaps the most characteristic feature in the other serpent drawings.

### *Death (Miquiztli)*

#### *Sources of drawings (fig. 15):*

<i>a</i> , Nuttall (Zouche),	p. 79	<i>i</i> , Vatican B,	p. 3
<i>b</i> , Borgia,	p. 4	<i>j</i> , Fejervary,	p. 33
<i>c</i> , Vatican B,	p. 25	<i>k</i> , Nuttall (Zouche),	p. 31
<i>d</i> , Vatican B,	p. 96	<i>l</i> , Vatican B,	p. 54
<i>e</i> , Nuttall (Zouche),	p. 75	<i>m</i> , Bologna,	p. 4
<i>f</i> , Vatican B,	p. 52	<i>n</i> , Bologna,	p. 2
<i>g</i> , Nuttall (Zouche),	p. 13	<i>o</i> , Vatican B,	p. 63
<i>h</i> , Nuttall (Zouche),	p. 13	<i>p</i> , Nuttall (Zouche),	p. 32

As already mentioned, the sign for death is a human skull. This is drawn in many cases with some degree of fidelity to the facts. It is, on the other hand, one of the symbols showing most marked distortion. Figure 15 shows its principal variations. *p* of this figure shows a realistic scene from an Aztec funeral ceremony. The practice seems to have been to expose the body until only the bones were left, which were then gathered and burned. We have here the representation of such a cremation scene. Piled upon a circular mat are the long bones tied up in a faggot, and surmounted by the skull. Sticking up on each side are decorated slats of wood. To one side stands the figure of a priest, with black face and black body-paint, usual in the case of people taking part in religious ceremonials. In his hands he holds a torch with which he ignites the pyre. The fire may be seen spreading to right and left in the drawing, and in the center there mounts a thick column of smoke. The drawing of the skull is the point of particular interest for us. There is con-

siderable realism in the sketch. The staring eye-orbit, the teeth and jaw, and the zygomatic arch are shown, though not perfectly. This type of drawing seems to have been the original model for the day-symbol Death.

I should like to emphasize some curious points in the Aztec artist's treatment of the lower jaw of the skull. Perhaps we can discuss this best by calling to mind the outlines of the jaw as it really is (fig. 14, *a*). We notice the teeth and chin on the one hand, and on the other the ascending "ramus" with the sigmoid notch at the top. On one side of this notch (to the left in the sketch) rises the coronoid process, and on the other, the hinge of the jaw, or "condyle." The Aztecs represent all of these features in their jaw-bones, especially the sigmoid notch and the hinge. The hinge itself they expand into a sort of circular tag, very prominent in all jaw figures. We can discuss the features of their jaw drawings to best advantage by citing places where the jawbone is drawn alone. For this we can turn to the "Grass" symbols (fig. 28, below), in which a human jawbone plays a conspicuous part. This is also shown in figure 14, *b*. Here especial attention is drawn to the conspicuous "hinge" portion.

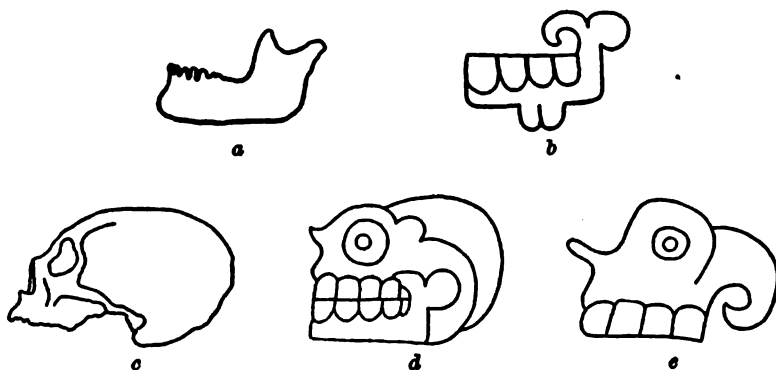


Fig. 14.—Curious Features of the Drawings representing the Skull, and a possible explanation of them

*a*, Drawing of an actual jaw-bone; *b*, a jaw-bone from a day-sign, Nuttall, p. 79; *c*, drawing of an actual skull (Chinook Indian, artificially flattened); *d*, Nuttall, p. 82, and *e*, Nuttall, p. 13, the skull as drawn in day-signs.

When we turn to the representations of the whole skull, with brain-case and jaw, we find the delineation very much affected by this fondness for emphasizing the hinge of the jaw. Figure 14, *c*, shows a sketch of an actual skull. An artificially flattened Chinook (Columbia River) cranium was chosen for the sketch, because it most nearly corresponds in outline to the Aztec drawing. We have around the eye a bony ridge which fuses below into the zygomatic arch, running across the sketch horizontally. All of these features can be recognized in the corresponding Aztec design (fig. 14, *d*), though rudely drawn in. I should like to emphasize in this latter figure (*d*) the fact that when the jaw is fitted by the artist into the skull, as shown in the dotted lines (actually following the original drawing), the flamboyant treatment of the maxillary condyle, or hinge process, leaves only the back part of the cranium showing. The occipital part of the cranium runs around the jawbone in the form of a hook. When the artist draws a skull without the jaw he preserves this hook, which leaves a space or socket where the jaw hinge would fit if it were present. This hook in skulls which are drawn without jaws becomes rudimentary and apparently loses its original meaning. I am otherwise at a loss to account for the curious hook which appears at the rear of many skull drawings (such as *e*, fig. 14). In the collection of skull drawings used as day-signs (fig. 15) many will be found (*h*, *o*) where the hook is quite meaningless. On the other hand, in some of them (*f*, *l*) the skull is in perfect shape for the reception of a jaw with an expanded hinge. We have in the drawings standing for the idea "Death" a case where, it seems to me, a very curious and puzzling feature of a day-sign is really explained by reference to an original graphic style of delineation.

Many minor variations will be noticed in the skull symbols. For one thing, the skull often has, as an ornament, a flint knife stuck in the nostril (fig. 15, *d*, *i*). This flint knife seems to degenerate in other cases to a mere point or lobe (*g*, *j*, *l*). The eye also becomes less realistic in certain drawings (*g*, *j*). In *k* we find a jaw with the usual hinge, but there is no corresponding notch in the skull. On several of the skulls are found lines suggesting a cap, possibly representing a painted design (*f*, *k*).

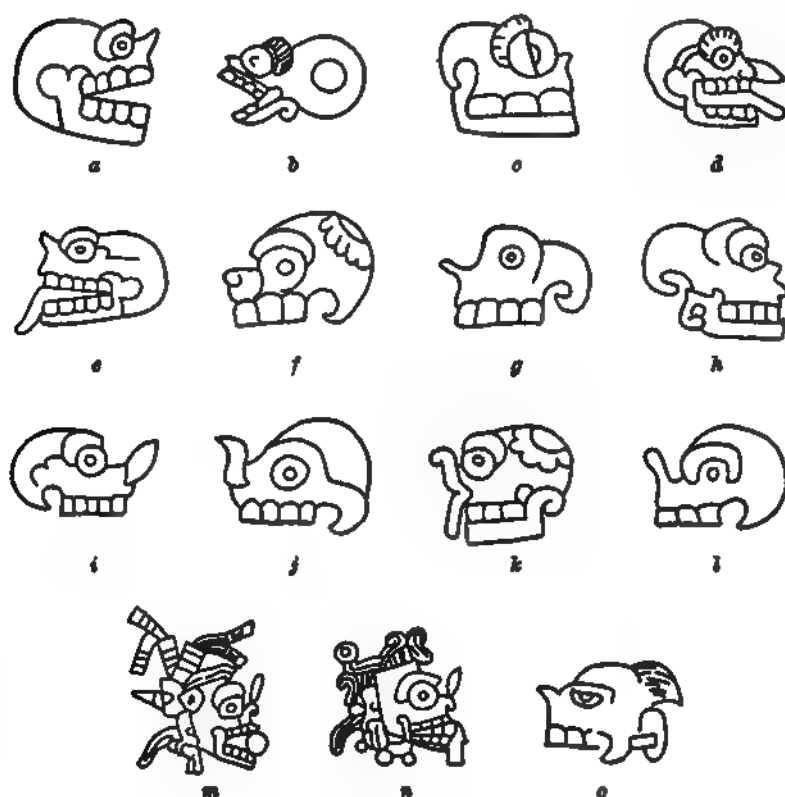


Fig. 15.—a-o, The Day-sign Death (*Miquisiti*); p, Realistic Drawing of a Skull

The three last figures show a skull with ornament attached, prominent among them in each case an ear-ornament. The absurdity of an ear-ornament where there are no ears does not seem to strike the artist. The meaning of the curious tuft on the top of *o* is unknown.

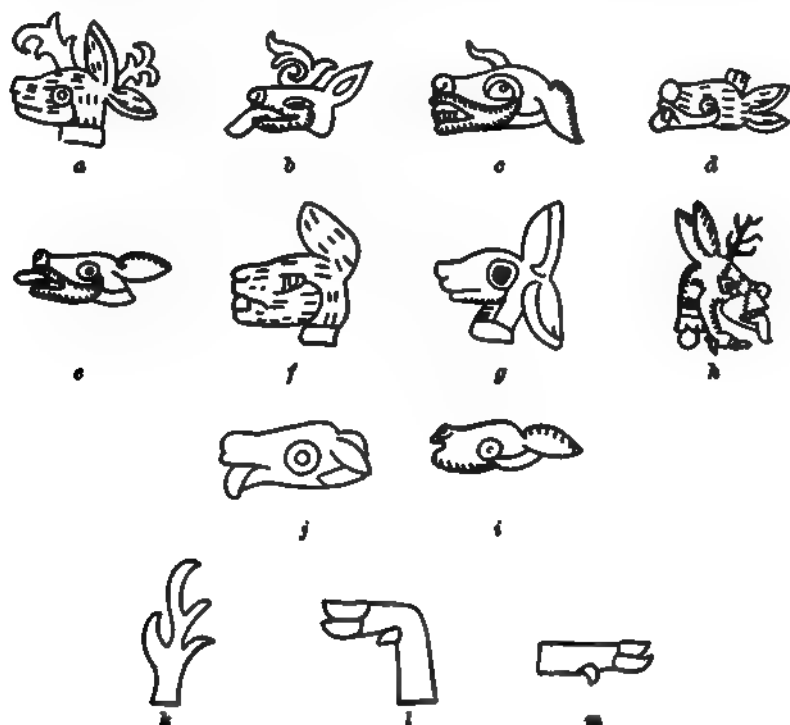
### *Deer (Mazatl)*

*Sources of drawings (fig. 16):*

<i>a</i> , Vatican B,	p. 64	<i>h</i> , Bologna,	p. 3
<i>b</i> , Nuttall (Zouche),	p. 26	<i>i</i> , Nuttall (Zouche),	p. 45
<i>c</i> , Nuttall (Zouche),	p. 49	<i>j</i> , Nuttall (Zouche),	p. 51
<i>d</i> , Vatican B,	p. 1	<i>k</i> , Fejervary,	p. 20
<i>e</i> , Nuttall (Zouche),	p. 48	<i>l</i> , Fejervary,	p. 36
<i>f</i> , Vatican B,	p. 67	<i>m</i> , Fejervary,	p. 13
<i>g</i> , Vatican B,	p. 89	<i>n</i> , Fejervary,	p. 26

Before discussing the illustrations which show the various forms of this day-sign (fig. 16), it will be well to get certain characteristics of the deer in mind. It is possible to form a conclusion as to which of the characteristics were most conspicuous in the minds of the native artists by considering which are most frequently in evidence in the delineations. The most important one is the long, slender muzzle (fig. 16, *a*, *b*, *c*, *d*, *e*, *g*, *i*, *j*, *n*). The next in importance is the antler. Another point which is emphasized in many drawings is the deer's large incisor teeth in the lower jaw, a trait which deer has, of course, in common with many other ungulates. The cloven hoof is also very strongly emphasized in some drawings. The realistic drawing at the bottom of the figure (fig. 16, *n*) exhibits most of the deer's actual peculiarities—muzzle, long ears, cloven hoofs, and short tail. Neither teeth nor antlers are represented in *n*. The former occur, however, very well drawn, in *b*, *c*, *d*, and *h*. I think the deer's antlers would be considered by ourselves his most distinctive possession. These antlers appear in *a*, *b*, *c*, and *d*. The illustrations are here arranged in descending order, exhibiting a successive deterioration of the antler. A series like this, whether it accounts for the development of the simpler forms or not (and it probably does not), enables us, at any rate, to identify these simpler forms. The little excrescence in *d* can, for example, be

identified as an antler by looking at the more fully delineated drawings in *a* and *b*. Perhaps the next drawing worthy of remark is *k*. Like many of the figures in the Bologne Codex from which it is taken, it represents a well-drawn head, with a tiny leg



n

Fig. 16.—*a-m*, The Day-sign Deer (Masatl); *n*, Realistic Drawing of a Deer

attached. In this case the head has teeth in the *upper* jaw, and there might be some difficulty involved in identifying it as deer, if it were not for the presence of the antler. It will be noted that in the drawings of the deer the ears assume all sorts of shapes and configurations, from erect to drooping (fig. 16, *i*). We shall revert to this point in a moment. In *k* the artist drew not a deer but merely an antler, which passes as a symbol for the whole animal. In *l* and *m* he drew the cloven hoof merely.

### *Rabbit (Tochtli)*

*Sources of drawings (fig. 21):*

<i>a</i> , Vatican B,	p. 61	<i>g</i> , Aubin,	p. 18
<i>b</i> , Fejervary,	p. 42	<i>h</i> , Vatican B,	p. 27
<i>c</i> , Vatican B,	p. 96	<i>i</i> , Vatican B,	p. 60
<i>d</i> , Nuttall (Zouche),	p. 80	<i>j</i> , Bologne,	p. 2
<i>e</i> , Vatican B,	p. 68	<i>k</i> , Borgia,	p. 8
<i>f</i> , Vatican B,	p. 49		

The Mexican artist, if he set about the task seriously, found no difficulty in drawing the rabbit in a very realistic fashion (witness figure 21, *k*). Here the animal is given a characteristic rabbit-posture—sitting on its haunches. The drawing moreover shows the elongated ears, the abbreviated tail, and the large and prominent incisors so characteristic of the rabbit in life. It is worth noting that the rabbit's big incisors are drawn in the upper jaw, in this respect offering a contrast to the drawings of the deer. In figure 21, *g*, teeth are entirely omitted. Certain curious tendencies, however, show themselves in the delineation of these teeth. In *a* they are conspicuous, but more like fangs than is really necessary. In *c* and *d* they are unduly prominent; in the latter figure, indeed, notably exaggerated. In *e* the two teeth have been fused into a sort of ribbon hanging out of the mouth. In *f* this ribbon takes on the appearance of a tongue, and may have been so interpreted by the artist. In *h* we have a tongue plainly shown, but it comes out over the upper teeth. How the artist reconciled this drawing with his knowledge of the facts cannot be explained. Figure 21, *j*, is another figure from the Bologne manuscript—a head with tiny legs attached. It might be worth



mentioning in connection with these two plates that some of the drawings of the deer are hardly to be distinguished from some of the pictures of the rabbit. Compare, for example, *g* of figure 16 with *f* of figure 21. The many points of identity between different drawings of these two figures deserves some further illustration.

We have said already that the most characteristic (or at least the most constant) thing in the deer drawings is the represen-



Fig. 17.—Day-signs representing Four Different Animals,  
all resembling the Deer

*a*, Deer, Vatican, p. 52; *b*, Rabbit, Vatican, p. 52; *c*, Dog, Vatican, p. 55; *d*, Ocelot, Vatican p. 71.

tation of the deer's long muzzle. Stated baldly, the top line of the deer's head is, in the pictures, concave. The rabbit, on the contrary, has a short, rounded snout, and the top line of his head is usually rounded over toward the nose. These traits are brought out clearly in the realistic pictures (fig. 16, *n*; fig. 21, *k*). It is now important to recognize that even such a constant distinction is often forgotten by the native artist. Figure 17, *a*, for example, represents the deer, but *b* of the same figure, with entirely similar outlines, represents not the deer but the rabbit. For the sake of comparison a picture of dog (*c*) and ocelot (*d*) are added, which, from the general outline, might be taken just as readily for rabbit or deer. In other words, there is no type to which the drawings of one animal necessarily conform.

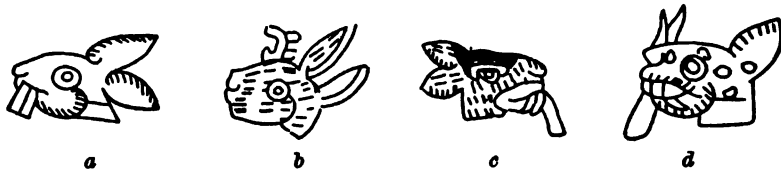


Fig. 18.—Day-signs representing Four Distinct Animals,  
all resembling the Rabbit

*a*, Rabbit, Nuttall, p. 47; *b*, Deer, Vatican, p. 61; *c*, Dog, Vatican, p. 6; *d*, Ocelot, Nuttall, p. 23.

It is quite as easy to pick out a series of animals all drawn on the model of the rabbit. Figure 18 shows such a series. Here the same four animals, rabbit, deer, dog, and ocelot ("tiger") are represented, but they all have the form of the rabbit. The drawing of the deer in *b*, figure 18, would certainly be interpreted as the rabbit, except for the horns. If the deer's horns were always delineated in representations of the deer, there could, of course, be no confusion, but as often as not they are omitted.

The same point might be made about the ears of the two animals. The deer's ears are often erect, while the rabbit's often cling close to the head, or drop down. Figure 19, *a*, shows what



Fig. 19.—Day-signs representing the Deer and the Rabbit, showing the commingling of traits

*a*, Rabbit, Nuttall, p. 53; *b*, Deer, Vatican, p. 3;  
*c*, Rabbit, Vatican, p. 57.

might be regarded as a very characteristic drawing of the rabbit. Figure 19, *b*, however, represents the deer, though the ears droop. On the other hand, *c* in this same figure, though the ears are erect, represents not the deer but the rabbit. In other words, I should like to make the point that statements such as those made by Seler,<sup>64</sup> to the effect that absolute criteria can be set up by which each figure can be recognized, are not borne out by a study of the manuscripts. If it were not for the occurrence of the day-signs in regular series, it would be quite impossible in many cases to distinguish one from another.



Fig. 20.—Day-sign Deer drawn with the Incisor Teeth belonging to the Rabbit  
Vatican, p. 4.

To the zoologist the point most worthy of emphasis would be, I think, the fact already referred to, that the rabbit has large

<sup>64</sup> 1900-1901, pp. 9-16.

incisor teeth in his upper jaw, while the deer has them only in his lower jaw. This is associated, of course, with the distinction



Fig. 21.—a-j, The Day-sign Rabbit (*Toochli*); k, Realistic Drawing of a Rabbit

between rodents and ungulates. While this difference is noted by the artists in most of the figures, we find occasional breaches of the rule. For example, in figure 20 we find a representation

of the deer, with the large upper incisors proper to the rabbit. The point here discussed will come up again in connection with some of the other day-signs.



Fig. 22.—a-s, The Day-sign Water (*Atl*)

#### *Water (Atl)*

*Sources of drawings (fig. 22):*

a, Nuttall (Zouche), p. 44	k, Fejervary, p. 40
b, Nuttall (Zouche), p. 25	l, Vatican B, p. 6
c, Nuttall (Zouche), p. 35	m, Fejervary, p. 17
d, Nuttall (Zouche), p. 53	n, Nuttall (Zouche), p. 44
e, Nuttall (Zouche), p. 66	o, Nuttall (Zouche), p. 9
f, Bologne, p. 6	p, Nuttall (Zouche), p. 76
g, Fejervary, p. 42	q, Nuttall (Zouche), p. 81
h, Nuttall (Zouche), p. 18	r, Nuttall (Zouche), p. 8
i, Aubin, p. 20	s, Nuttall (Zouche), p. 32
j, Vatican B, p. 24	

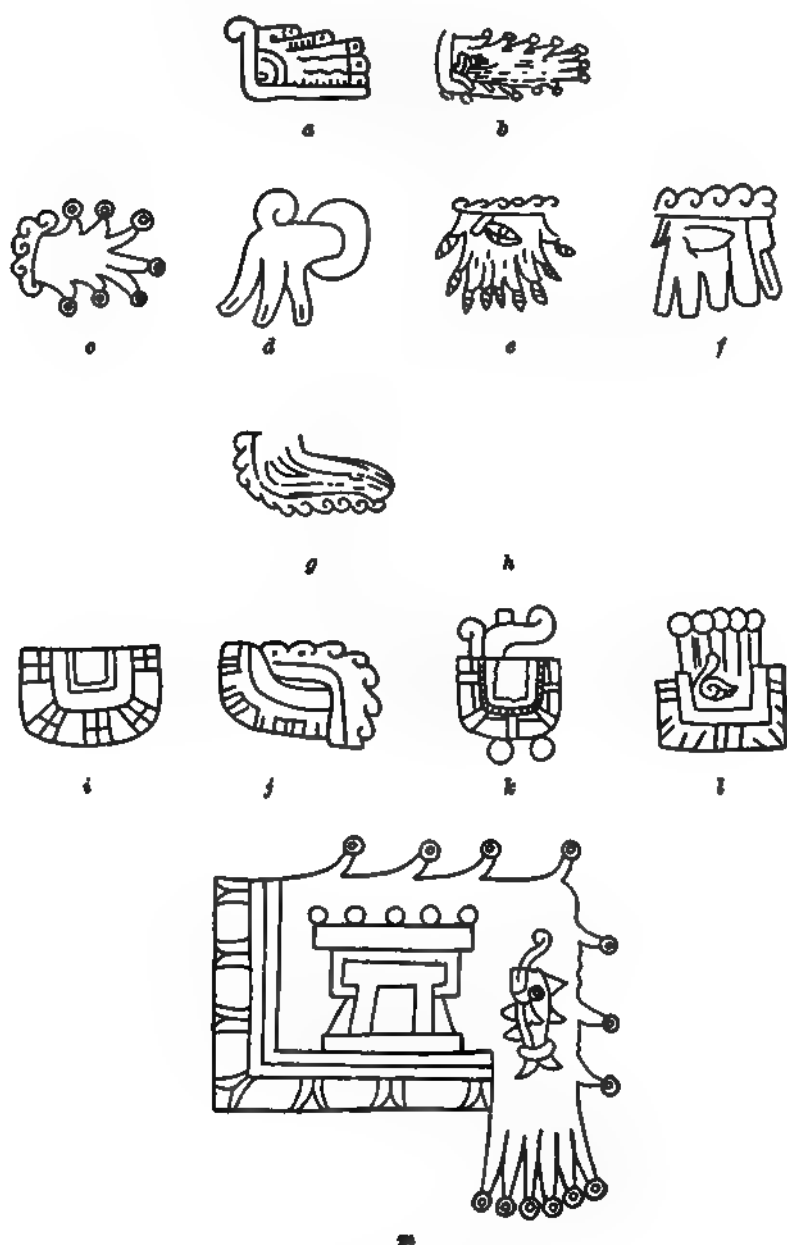


Fig. 23.—a-l, The Day-sign Water (*Atl*), additional forms;  
 m, Realistic Drawing of a Lake

*Sources of drawings (fig. 23):*

<i>a</i> , Vatican B,	p. 71	<i>h</i> , Vatican B,	p. 54
<i>b</i> , Vatican B,	p. 47	<i>i</i> , Nuttall (Zouche),	p. 58
<i>c</i> , Nuttall (Zouche),	p. 72	<i>j</i> , Nuttall (Zouche),	p. 13
<i>d</i> , Fejervary,	p. 35	<i>k</i> , Bologna,	p. 30
<i>e</i> , Vatican B,	p. 49	<i>l</i> , Vatican B,	p. 70
<i>f</i> , Vatican B,	p. 25	<i>m</i> , Nuttall (Zouche),	p. 74
<i>g</i> , Vatican B,	p. 4		

There is a rather greater variety of forms of the symbol "Water" than is the case with most day-signs (figs. 22 and 23). The most graphic of these represents a dish of some sort, full of water, with foam or waves on the surface and a shell in the center. For such a drawing the reader is referred to figure 22, *a*. The same details come out in the scene or landscape at the bottom of figure 23 (*m*). The principal thing in this latter representation is a lake with waves on top, a river flowing out of it, a fish in its depths, and on the shore a temple. The scrolls representing the ripple or foamy surface of water are a very common feature of the drawings.

Turning now to some of the variations of the water drawing, we find a good deal of shifting and lack of uniformity of design. In some of the designs, as might be expected, the waves are lacking, others lack the shell, and others lack the containing vessel mentioned above as very common. The drawings in the figure are arranged in order according to the degree of completeness with which these vessels or containers are delineated. This method of arrangement, as before, serves merely for convenience in identifying the simpler drawings. It is interesting to see how rude and merely suggestive of the original elements some of the figures are. Figure 22, *r*, for example, has lost all external resemblance to a dish full of water; the dish has been reduced to a rudiment, and the water has taken on the appearance of a solid object of some sort. Comparison with the more perfect representations (figure 22, *a-r*) will show, nevertheless, that all the essential features of the graphic drawing are present. In figure 23, *c*, the containing dish, which no longer actually "contains" the water, is itself bordered with water or wave symbols. In the case of some symbols we see the whole drawing turned upside down. This has happened in figure 23, *e*, in which the

water seems to stream down from a sky. Figure 23, *f*, is a still more extreme case of the same thing. Even in this latter case, however, the original dish and shell may be recognized. We have finally, in the water symbol as shown in figure 23, *h*, merely a formless collection of lines.

A few curiosities come to light in making such a collection of water-symbols. For example, the dish and the escaping water take in figure 22, *p*, almost exactly the form of an animal's head with an eye, a fang (the leg of the pot or dish originally), and two ears. The scroll designs representing the wavy or foamy surface of water take on at times the forms of other objects. Thus in figure 22, *e*, we have springing up on the surface of the water a semi-circular knob. In figure 22, *f*, this excrescence takes on the appearance of the "Flower" symbol (see fig. 32, below). In figure 22, *h*, it assumes another and very different form, but one unlike any object the present writer can name. In figure 23, *k*, the excrescence becomes almost exactly like the Aztec symbol for smoke. In figure 23, *l*, finally, we have the vessel under the shell clearly drawn, but the water has shot up out of this vessel and hangs in the form of disks above it.

The form shown in figure 23, *i*, is something of a puzzle. There is scarcely any resemblance to water left, but the curious patterns around the edge correspond to the marks around the margin of the water in the realistic picture illustrated in *m*, figure 23. Identification of the various water-symbols is made easier by the fact that in the manuscripts the part representing the water itself is normally painted blue. This aid to identification is of service only in the case of colored reproductions of the original manuscripts.

### *Dog (Itzcuintli)*

#### *Sources of drawings (fig. 24):*

<i>a</i> , Nuttall (Zouche),	p. 57	<i>i</i> , Vatican B,	p. 90
<i>b</i> , Bologna,	p. 1	<i>j</i> , Fejervary,	p. 44
<i>c</i> , Nuttall (Zouche),	p. 79	<i>k</i> , Fejervary,	p. 36
<i>d</i> , Nuttall (Zouche),	p. 82	<i>l</i> , Bologna,	p. 8
<i>e</i> , Nuttall (Zouche),	p. 3	<i>m</i> , Vatican B,	p. 68
<i>f</i> , Vatican B,	p. 66	<i>n</i> , Bologna,	p. 3
<i>g</i> , Vatican B,	p. 51	<i>o</i> , Nuttall (Zouche),	p. 72
<i>h</i> , Fejervary,	p. 41		

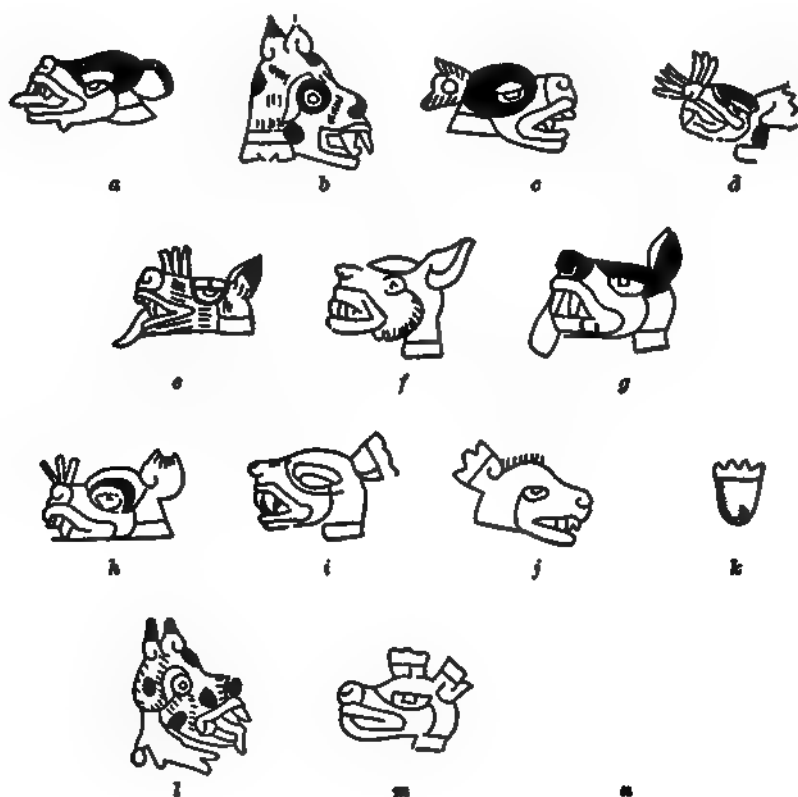


Fig. 24.—a-n, The Day-sign Dog (*Itscuintli*); o, Realistic Drawing of a Dog



Comment has already been made on the fact that the symbols for Dog, Rabbit, Deer, and Ocelot are so drawn as to be very much alike. Perhaps the most distinguishing feature of the dog head, as it is usually drawn, is a black patch around the eye. This patch appears in figure 24, *b, c, d, e, h, n, and o*. The fact must however be noticed that *ocelot* ("Tiger") is sometimes represented with this patch (fig. 25, *a*). Seler<sup>65</sup> says that a characteristic thing about the dog, drawn in the manuscripts, is a "double-pointed" black patch about the eye. The present figure will show at least that this patch is not uniformly "double-pointed." Another trait usually found in the delineation of the dog is a sort of lip (fig. 24, *a, n, o, etc.*). This lip is however often represented in the drawings of other animals. (Compare the tiger and deer drawings shown in figure 25, *a, and b.*) In figure 24, *o*, and appearing in a good many places in the



Fig. 25.—Various Day-signs, showing confusion or commingling of traits

*a*, Ocelot, with an eye-patch usually characteristic of the Dog (Vatican B, p. 66); *b*, Ocelot, resembling the Dog in teeth, lips, and form (Nuttall (Zoche), p. 80); *c*, a drawing of the Deer with the lip which is characteristic of the Dog (Vatican B, p. 69).

manuscripts, is a sort of beard or fringe under the dog's chin. Seler makes the additional remark that there were two varieties of dog known to the Aztecs, and represented in the manuscripts—one brown, and one spotted. Inspection of the present plate makes one wonder whether they did not have some custom of clipping their dog's ears. In *c, d, g, h, i, j, l, and m* of figure 24, the dog is represented with a highly ornamental ear-flap. Seler speaks of this ear as "mangled," and calls attention to the very interesting fact that dogs are represented in this way in the Dresden Maya Codex.<sup>66</sup> He is the only animal so represented.

<sup>65</sup> 1900-1901, p. 11.

<sup>66</sup> *Loc. cit.*

In *k* of figure 24, we have nothing left of the dog, except this highly ornamented ear. Figure 24, *n*, is another of the Bologne Codex figures, with a tiny leg attached. It will be seen that the artist in *o*, figure 24, was unable to draw a dog's hind limb properly. The animal has a leg quite like that of a human being. This is true of most of the animals the Aztecs and the Mayas tried to draw.<sup>67</sup> The drawings of the dog supply interesting cases of convergence in the representation of animals. The prominent and sharp teeth usually shown in the dog figures are often represented in drawings of the rabbit.

### *Monkey (Ozomatli)*

*Sources of drawings (fig. 27):*

<i>a</i> , Nuttall (Zouche), p. 72	<i>h</i> , Vatican B, p. 8
<i>b</i> , Nuttall (Zouche), p. 79	<i>i</i> , Nuttall (Zouche), p. 8
<i>c</i> , Nuttall (Zouche), p. 44	<i>j</i> , Fejervary, p. 42
<i>d</i> , Borgia, p. 3	<i>k</i> , Vatican B, p. 66
<i>e</i> , Nuttall (Zouche), p. 4	<i>l</i> , Fejervary, p. 20
<i>f</i> , Nuttall (Zouche), p. 38	<i>m</i> , Fejervary, p. 20
<i>g</i> , Vatican B, p. 3	<i>n</i> , Nuttall (Zouche), p. 76

The most nearly characteristic features of the drawings of the monkey are: (1) a face with an elongated snout; (2) a stiff crest of hair; and (3) a conspicuous ear-ornament. The first two are elements derived from the actual characteristics of the Central and South American monkeys. The presence of the ear-ornament can be explained, as is the case with many other features of the day-signs, on the ground that they are borrowings from human articles of dress or adornment. Probably such borrowings are due, at least in part, to the vague feeling which is quite common among savages that all animals are human beings essentially, with a power which enables them, for their own purposes, to assume a different likeness externally. Other creatures in the day-signs are represented with ear-ornaments similar to the one exhibited on Monkey. Compare, for example, with the present designs, the drawings representing King-vulture (fig.

<sup>67</sup> See Water-monster, Deer, Rabbit, and Ocelot in the present paper, and, for example, the splendid figure of a jaguar from Chichen Itza in Spinden, 1913, pl. 29, fig. 7.

26 and fig. 33, *a, b, c, f, h, k*) and Wind (fig. 9). In view of this fact, it is somewhat surprising to find that in one or two places (see fig. 27, *l* and *m*) the monkey is represented vicariously by his ear-ornament, and nothing else. This ornament, although it stands for the day-sign Monkey, is in nowise to be distinguished from the ornament worn by the King-vulture (fig. 26). If it were not for its position in a series, then, there would be no way of telling whether the drawing shown in figure 27, *l*, should be interpreted as Monkey or as something else.



Fig. 26.—Drawing of a Day-sign representing the King-Vulture wearing an ear-ornament, the latter not to be distinguished from those which represent or typify the Day-sign Monkey.

(Fejervary, p. 37.)

The crest of the monkey in the present figure assumes several different forms. Compare, for example, *a* with *j*. In some cases the crest looks quite like the tuft of feathers surmounting the head of the eagle (see figure 32). The realistic drawing of the monkey (fig. 27, *n*) shows that all of these symbols representing the monkey follow the original idea very closely.

#### *Grass (Malinalli)*

##### *Sources of drawings (fig. 28):*

<i>a</i> , Nuttall (Zouche), p. 79	<i>j</i> , Borgia, p. 26
<i>b</i> , Nuttall (Zouche), p. 79	<i>k</i> , Borgia, p. 67
<i>c</i> , Nuttall (Zouche), p. 19	<i>l</i> , Aubin, p. 17
<i>d</i> , Vatican B, p. 78	<i>m</i> , Aubin, p. 12
<i>e</i> , Nuttall (Zouche), p. 40	<i>n</i> , Bologne, p. 6
<i>f</i> , Vatican B, p. 68	<i>r</i> , Borgia, p. 50
<i>g</i> , Nuttall (Zouche), p. 24	<i>o</i> , Bologne, p. 3
<i>h</i> , Vatican B, p. 16	<i>p</i> , Nuttall (Zouche), p. 71
<i>i</i> , Borgia, p. 6	

This is, in certain respects, the most curious of all the Aztec day-symbols, for the reason that it is, in its usual form, a combination of three elements that seem to have no logical connection with each other—a human jawbone, an eye, and a clump of

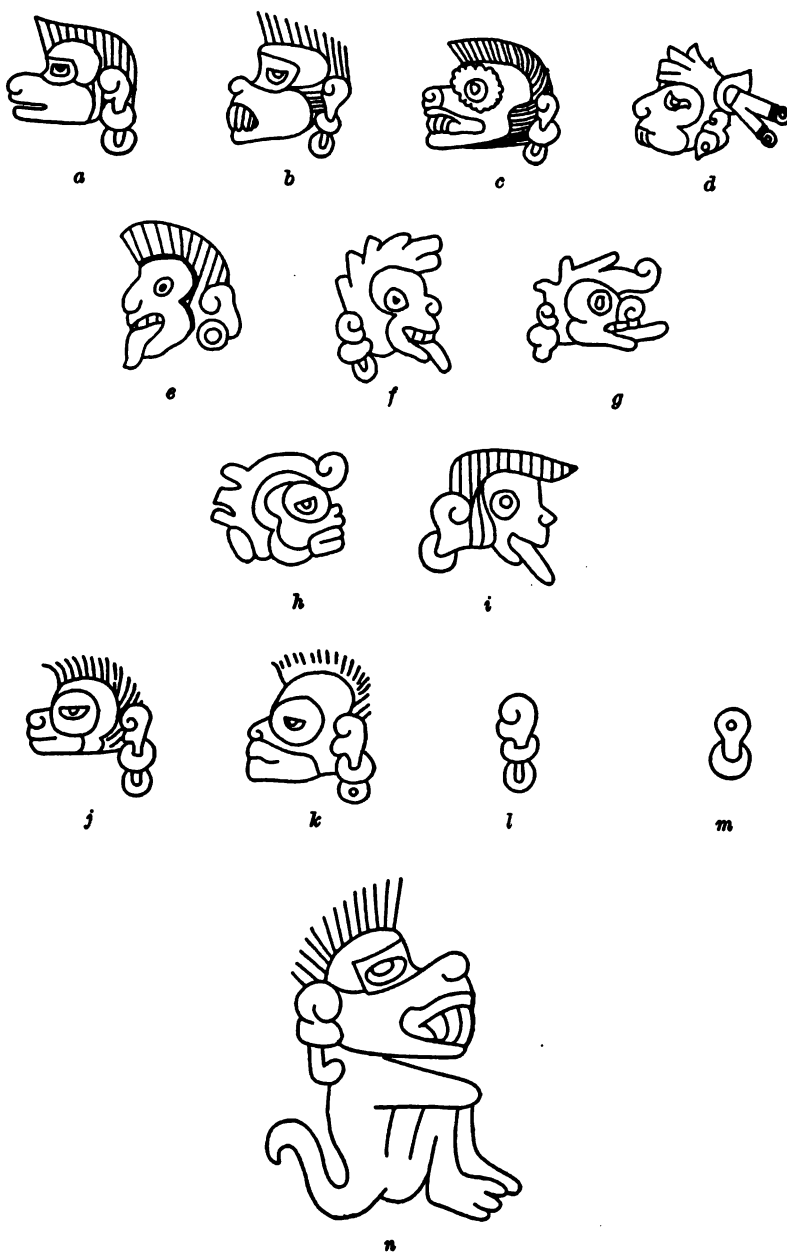
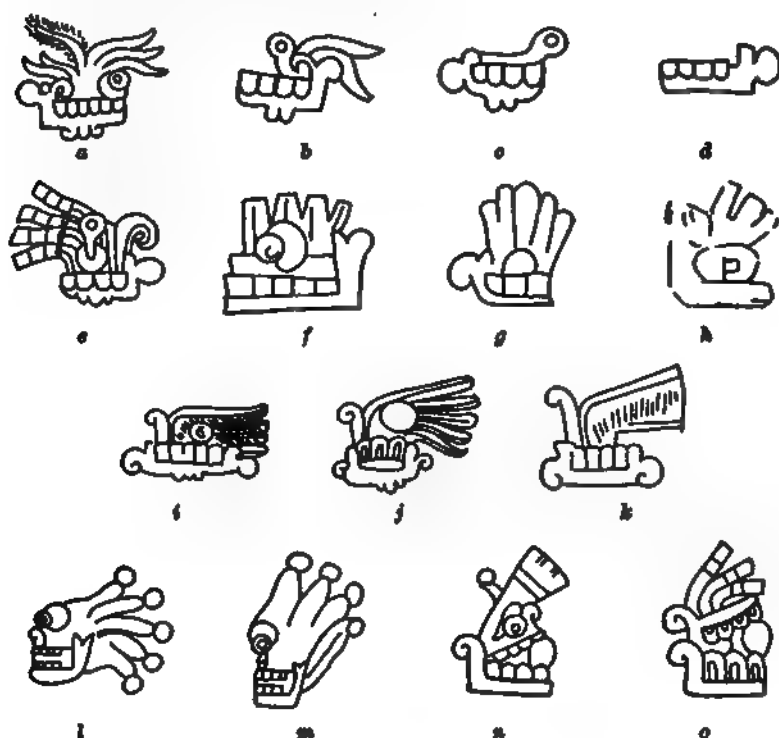


Fig. 27.—a-m, The Day-sign Monkey (*Osomatli*); n, Realistic Drawing of a Monkey

grass. Peñafiel,<sup>22</sup> quoted by Seler,<sup>23</sup> calls this grass *sacate del carbonero* (because charcoal-burners or "carboneros" make sacks of it) and states that the Aztec name *malinalli*, or "twisted," is



p  
Fig. 28.—a-o, The Day-sign Grass (*Malinalli*); p, Realistic  
Drawing of a Clump of Grass

<sup>22</sup> 1886.

<sup>23</sup> 1900-1901, p. 12

derived from the fact that the Aztecs were accustomed, as they are still, to "twist" it into ropes and pack-straps. Such etymologies are, of course, always open to suspicion. What the specific botanical name of the *zacate* grass is, I have not been able to learn. A realistic picture of a clump of this grass on the side of a mountain, with leaves, seed-stalks, and roots, is given in figure 28, *p*.

The first-mentioned element in the combination, the jawbone, is usually quite realistically represented. It is ordinarily drawn in profile, with the teeth in place, and with the sigmoid notch at the top of the ascending ramus easily distinguishable. There is, however, a peculiar and exaggerated representation of the condyle or hinge already referred to in connection with the day-sign Death (see page 349). Along the middle of the bottom edge of the bone there is a curious collection of humps, either two or three. Mrs. Nuttall says somewhere that these humps were put wherever the artist wishes to express the idea of "roughness." The basis of this idea, and the reason why the artist should wish to indicate roughness on the bottom edge of a jawbone, are alike uncertain. Seler<sup>70</sup> suggests a "reason" (such as it is) for the association of the grass with a jawbone, namely, that the bone signifies that the grass is dry.

The first four drawings (fig. 28, *a*, *b*, *c*, and *d*) give what might be considered four stages in the degeneration of the complete sign. In *a* we have jaw, eye, a clump of leaves, and a seed-stalk. In *b* we have, besides the jaw, two leaves and the eye; in *c*, the jaw and eye with no grass at all; and in *d*, plain jaw. Yet the position of each of the last three signs in different series makes it absolutely certain that they all represent the day-sign Grass. It is rather curious to find a bare jawbone standing as a symbol for vegetation, even vegetation of the driest kind.

Figure 28, *e*, *f*, *g*, and *h*, show a curious treatment of the grass element. In the latter (*h*) all resemblance to grass is lost. It is worth observing that in *e*, figure 28, the eye and eye-stalk together take on an appearance identical with the ear-ornament in the preceding figure (fig. 27). In the four figures just men-

<sup>70</sup> 1900-1901, p. 12.

tioned (*e*, *f*, *g*, and *h*, figure 28), there is progressive degeneration of the eye-stalk, which in the last figure named is only an empty bulb.

Figure 28, *i*, *j*, *k*, show the jaw in front view. The grass in each of these cases receives a curious treatment, reaching a climax in *k*, where it looks more like a phonograph horn than anything else that could be readily named. The eye, which is quite realistic in figure *j*, vanishes completely in *k*.

In *l*, *m*, *n*, *o*, the eyes are represented in combination with an additional feature, an upper jaw. In *n* we have a curious thing. The whole drawing assumes the form of a complete face with all its features, holding a ball in its gaping jaws. Flourishing around above this face we see the original eye and eye-stalk, with which we started in *a* of figure 28. The meaning of the pair of jaws biting on an object is a complete puzzle to the present writer.

#### *Cane (Acatl)*

##### *Sources of drawings (fig. 29):*

<i>a</i> , Nuttall (Zouche), p. 9	<i>j</i> , Nuttall (Zouche), p. 14
<i>b</i> , Nuttall (Zouche), p. 62	<i>k</i> , Vatican B, p. 47
<i>c</i> , Nuttall (Zouche), p. 1	<i>l</i> , Vatican B, p. 5
<i>d</i> , Nuttall (Zouche), p. 5	<i>m</i> , Nuttall (Zouche), p. 56
<i>e</i> , Vatican B, p. 65	<i>n</i> , Vatican B, p. 62
<i>f</i> , Vatican B, p. 51	<i>o</i> , Aubin, p. 8
<i>g</i> , Vatican B, p. 49	<i>p</i> , Vatican B, p. 60
<i>h</i> , Nuttall (Zouche), p. 32	<i>q</i> , Vatican B, p. 3
<i>i</i> , Nuttall (Zouche), p. 40	<i>r</i> , Borgia, p. 50

The symbols for the idea Cane (fig. 29) all represent, as remarked in connection with figure 1, the cane shafts of javelins. The first ten represent single missiles, the remaining seven represent bunches of several at once. Seler<sup>71</sup> calls the object in question an arrow. I am inclined to think that in most cases the object is a javelin (see fig. 29, *r*). It occurs universally in the hands of persons who in the other hand brandish the spear-thrower, or *atlatl*<sup>72</sup> as in the present figure. Examples of this combination are too numerous to quote. A device exactly similar

<sup>71</sup> 1900-1901, p. 12.

<sup>72</sup> Consult Nuttall, 1891.

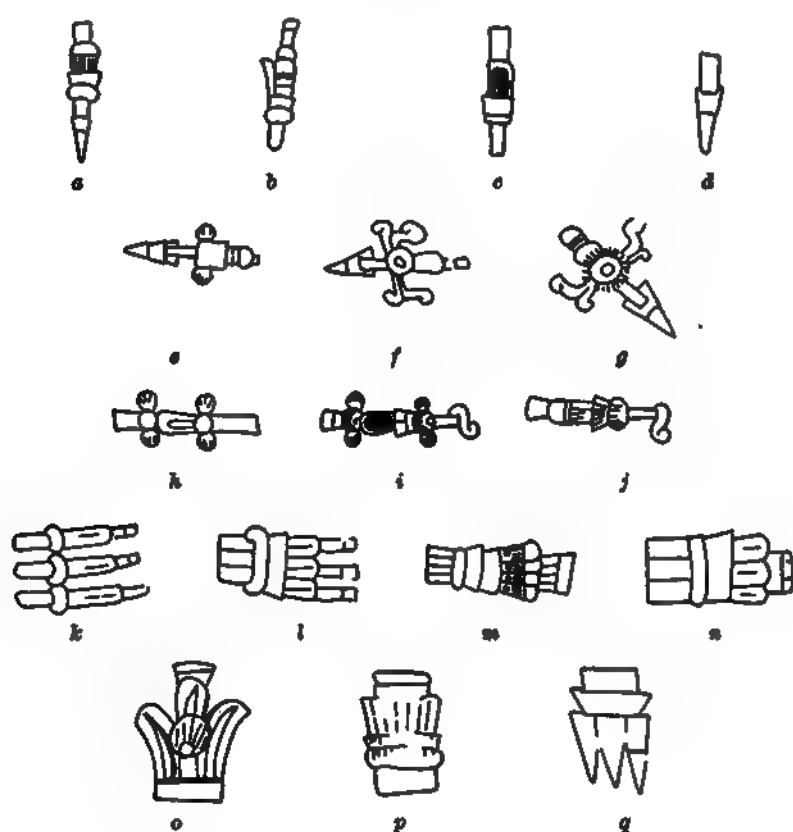


Fig. 29.—*a-q*, The Day-sign Cane (*Acotli*); *r*, Realistic Drawing of a Cane-shafted Javelin



to the missile we are discussing occurs in one place (Codex Nuttall—Zouche manuscript)<sup>73</sup> grasped in a warrior's hand along with a bow. The typical arrow, which appears in many places in Vatican Codex A (3738), is nearly always represented with a wooden fore-shaft, and has a series of barbs on one side. This arrow is not the weapon which occurs as a day-sign. The pictured accounts of Aztec combats<sup>74</sup> represent the spear-thrower, instead of the bow, as the important and universal weapon. In the mere interest of accuracy, the device which symbolizes the idea Cane ought to be referred to as a javelin, not as an arrow.

It is noticeable that in many of the drawings of the present figure, the javelin shaft is represented, while the head or point is omitted. Apparently, this point was of flint or obsidian, and therefore of no particular interest to the artist who was writing out a symbol for Cane merely. Those representations which are made up of several javelins together are often hard to recognize (see fig. 29, *e, m, n, o, p, q*), and, it must be added, are much more frequent in day-sign art than the others. The very badly drawn figure from the Aubin Codex (fig. 29, *o*) has more than a passing resemblance to one of the symbols (fig. 37, *d*) for Flower. The meaning of the sunbursts around the javelins in fig. 29, *f* and *g*, is unknown to the present writer, unless they represent missiles with blazing balls of cotton attached for setting fire to assaulted villages. The drawings in question certainly resemble the Aztec way of representing smoke. The resemblance of some of the groups of these javelins to the symbol for Flower supplies another instance of convergence.

#### *Ocelot (Ocelotl)*

##### *Sources of drawings (fig. 31):*

<i>a</i> , Nuttall (Zouche), p. 48	<i>i</i> , Bologna, p. 2
<i>b</i> , Nuttall (Zouche), p. 71	<i>j</i> , Vatican B, p. 80
<i>c</i> , Nuttall (Zouche), p. 53	<i>k</i> , Bologna, p. 8
<i>d</i> , Nuttall (Zouche), p. 54	<i>l</i> , Vatican B, p. 4
<i>e</i> , Nuttall (Zouche), p. 51	<i>m</i> , Fejervary, p. 32
<i>f</i> , Vatican B, p. 51	<i>n</i> , Fejervary, p. 36
<i>g</i> , Vatican B, p. 74	<i>o</i> , Nuttall (Zouche), p. 82
<i>h</i> , Bologna, p. 7	

<sup>73</sup> P. 10.

<sup>74</sup> See Bandelier, 1892 *a*, for description, and references to the literature.

A certain impropriety is involved in applying to this Aztec day-sign, as is usually done, the name "tiger," an animal unknown in the New World. The use of the term has become, in a way, a tradition. The animal in question is the ocelot, in Aztec *ocelotl*, misnamed, like many American institutions, by the Spaniards. These latter called the creature *el tigre* as a mere convenience. He is characterized in the drawings by a cat-like form, with talons and sharp teeth, and a handsomely spotted skin. It might be supposed that the spots of the skin would be the most characteristic feature in the delineation of this animal. As a matter of fact, this trait is often represented in a very spirited fashion (fig. 31, *o*). These spots occur not only on the realistic drawings but on many of the day-signs: for example, in *a* of figure 31. Like all other characteristics, however, they do not appear consistently by any means. Thus in *b* the number of spots has been reduced to two; in *c* of the same figure, but one is left; in *d*, the spots have vanished entirely, and the animal head there represented is hardly to be distinguished from that of the dog, or even the rabbit as represented elsewhere. Curiously enough, there is at least one case in the manuscripts where the day-sign Rabbit is actually represented with spots (fig. 30). We have here



Fig. 30.—The Day-sign Rabbit represented with the Spots characteristic of the Ocelot

(Nuttall, p. 77)

still another illustration of the rule that a given animal's most conspicuous characteristic may, in day-sign art, be lost or loaned to some other creature. It is perhaps worth noting that in *g*, figure 31, we have a drawing which, though really representing the tiger, has an outline that might serve with equal propriety for the deer. It is considerably more like the deer than are some of the deer figures (see fig. 16). The drawing appearing in *j* of figure 31 (reproduced from fig. 24, *b*), looks, on the other hand, like the drawings of the dog.

Another feature of the "tiger" drawings which is apparently realistic, is the black tip of the ear (see fig. 31, *o*). It appears not only in the realistic drawing but in many of the day-signs

as well (fig. 31, *c, d, e, g, h, i, j, k*). The drawing lettered *h* in this figure is one of the peculiar heads with tiny legs appended to it which is characteristic of the Bologna Codex. In addition to the legs, the animal in this drawing is provided with a nose-



Fig. 31.—*a-m*, The Day-sign Ocelot (*Ocelotl*); *a*, Realistic Drawing of an Ocelot

plug. In *i* of figure 31 the animal is represented with two erect ears in the proper place, but hanging down the back of his head is pictured a very complicated ear-ornament. The animal appears also to have some sort of a head-dress. The nose ornament appears also in figure 31, *m*. In *l* the idea "Ocelot" is symbolized by the drawing of an ocelot's paw merely, and in *n* by an object which comparison with the other drawings will show to be an ocelot's ear.

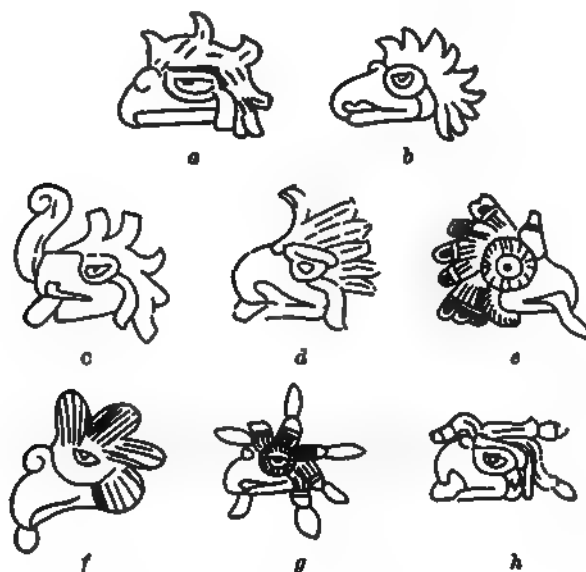


Fig. 32.—*a-h*, The Day-sign Eagle (*Quauhtli*); *i*, Realistic Drawing of an Eagle

*Eagle (Quauhtli)**Sources of drawings (fig. 32):*

<i>a</i> , Vatican B,	p. 92	<i>f</i> , Nuttall (Zouche),	p. 23
<i>b</i> , Nuttall (Zouche),	p. 47	<i>g</i> , Nuttall (Zouche),	p. 32
<i>c</i> , Vatican B,	p. 50	<i>h</i> , Vatican B,	p. 2
<i>d</i> , Vatican B,	p. 62	<i>i</i> , Nuttall (Zouche),	p. 69
<i>e</i> , Nuttall (Zouche),	p. 6		

The various drawings of the eagle are markedly realistic. The drawing at the bottom of the figure is taken from a section of the Codex Nuttall which represents an eagle in combat with an ocelot. The characteristics of the bird usually chosen for emphasis in the day-signs are his hooked beak, and a crest of feathers on his head. The beak occurs in practically all the drawings, not only in those illustrated here. In a few cases there is some degeneration. Thus in *f*, figure 32, the beak is weakened and lacks the sharp curve so well represented in most of the other drawings. The crest is usually barred gray and white, but these barrings do not show in uncolored figures. There is considerable variety shown in the minor details of the treatment of the plumes of the crest. In *i*, figure 32, they are fairly realistic, as they are in *b* and *e* of the same figure. In *a* they take on the appearance of a series of hooks, and in *d* they are much elongated. In *g* and *h*, as mentioned in connection with figure 8 (p. 336), the feathers take on appearance of stone knives. The reason for this is rather hard to fathom. The stone knife is itself one of the calendar symbols (see fig. 35) standing for the idea "flint." Stone knives appear occasionally on the head and back of the water-monster in place of spikes. Perhaps in both cases the stone knives represent merely a fanciful elaboration. A bird, however, something like an eagle, whose plumage consists entirely of flint knives, is a prominent mythological figure in the southwestern part of the United States. So there may be some mythological idea behind the drawing in the present case. In one or two cases the eagle is represented with a tongue protruding from his mouth (*c*, *d*, *e*, *g*, *h*, fig. 32). This tongue sometimes takes on the appearance of a long scroll, as in figure 32, *c*.

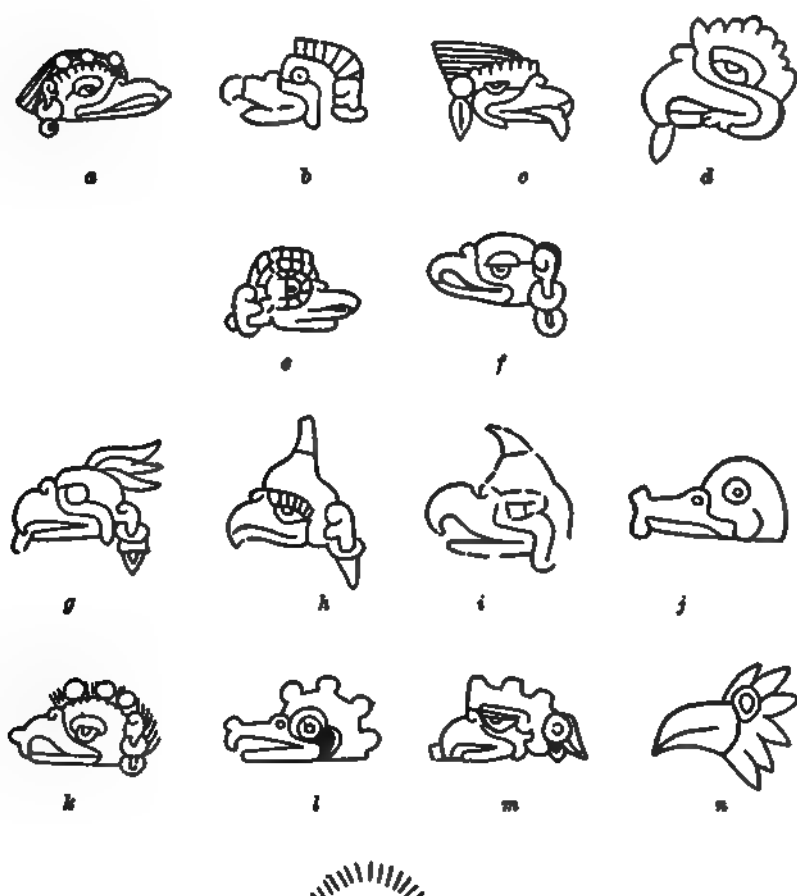


Fig. 33.—a-n, The Day-sign King-vulture (*Coccosquauhtli*);  
o, Realistic Drawing of a Vulture

*King-vulture (Cozcaquauhtli)**Sources of drawings (fig. 33):*

a, Nuttall (Zouche), p. 54	i, Vatican B, p. 62
b, Vatican B, p. 2	j, Fejervary, p. 1
c, Nuttall (Zouche), p. 28	k, Nuttall (Zouche), p. 45
d, Nuttall (Zouche), p. 13	l, Fejervary, p. 40
e, Vatican B, p. 6	m, Vatican B, p. 1
f, Nuttall (Zouche), p. 59	n, Aubin, p. 3
g, Vatican B, p. 92	o, Nuttall (Zouche), p. 74
h, Vatican B, p. 78	

The drawings of the vulture are rather more interesting than those of the eagle, since they show a greater amount of variability, and have in addition certain curious features. Perhaps it is best to notice first of all the realistic drawing (fig. 33, o). The bird is here represented with his wings outspread. The most characteristic thing from the Aztec point of view seems to be his long beak with the hook at the end, and his curious naked head with fine hairs on it. Everyone agrees that the bird represented is the king-vulture or ringed vulture, called by the Mexicans of today the "Rey de Zopilotes." In the day-signs he is normally represented with an ear-ornament hanging at the back of his head. Seler<sup>75</sup> advances the idea that this ornament is intended to represent ideographically the idea of ornament in general, meaning in the present case that the bird's neck is *ringed*. It is, of course, hard to see why they should not have drawn the creature with a ring instead of an ear-ornament if that was the idea to be presented. It must however be observed that the day-sign Vulture, as already pointed out (see fig. 26), has, in some cases, exactly the same ear-ornament that is flaunted by the monkey in the day-signs. The two animals moreover are represented with very much the same sort of crest. It is entirely possible that the similarity of the vulture's crest to the monkey's has induced the appearance of similar ear-ornaments in both animals. It is, however, not easy to state why the monkey should have been so represented in the first place. At any rate, if the ear-ornament is an ideogram for "ringed" here, what is it in the case of the monkey symbol? The ear-ornament in connection

<sup>75</sup> 1900-1901-p. 13.

with the present day-sign takes on a variety of forms, but it might be noticed that in each case it is readily distinguishable from the ear-ornament worn by *Quetzalcoatl* (see fig. 9), another important figure commonly wearing this article of adornment.

The vulture's head is in actual fact almost bare. The few hairs or pin feathers which are represented in realistic fashion in figure 31, *o*, take on quite elaborate forms in certain of the day-signs. They are sometimes elaborated by the addition of small disks or balls (fig. 33, *a* and *k*). Sometimes they are connected by a continuous line, as in *b* and *c*. In *e* they take on the appearance of rectangles or scales. In *g* we see a bare head with a sort of aigrette or plume, which in *h* and *i* solidifies into a sort of peak. It seems that the artist must have had some such form as *g* vaguely in mind before he was able to produce such a form as *i*. On the other hand, it would seem that the custom of representing the vulture's crest with ornamental balls on top, as in *k*, probably explains the curious drawing shown in *l*, where they have become mere knobs. In *m*, from another manuscript, these, or similar knobs, are represented in still more simplified form. In *n* we have one of the degenerate forms from the Aubin manuscript, which is simply unrecognizable. In *j* we have an absolutely bare head, without even pin-feathers or the ear-ornament. In *d*, on the other hand, we have a vulture head which is elaborated until it is scarcely, if at all, to be distinguished from the head of Eagle (see fig. 32).

### *Motion (Olin)*

#### *Sources of drawings (fig. 34):*

<i>a</i> , Bologne,	p. 1	<i>h</i> , Vatican B,	p. 8
<i>b</i> , Aubin,	p. 19	<i>i</i> , Nuttall (Zouche),	p. 51
<i>c</i> , Aubin,	p. 8	<i>j</i> , Nuttall (Zouche),	p. 45
<i>d</i> , Borgia,	p. 6	<i>k</i> , Vatican B,	p. 70
<i>e</i> , Nuttall (Zouche),	p. 36	<i>l</i> , Vatican B,	p. 93
<i>f</i> , Vatican B,	p. 46	<i>m</i> , Nuttall (Zouche),	p. 35
<i>g</i> , Nuttall (Zouche),	p. 20	<i>n</i> , Nuttall (Zouche),	p. 44

Figure 34, *b*, represents what is probably the "normal" form of this sign. This, at any rate is the form which is of most frequent occurrence on the monuments. It consists of two figures



side by side which meet in the center and are, so to speak, bent away from each other at the ends. At the middle of the outer edge of these two sides there are a couple of "handles," or rings. In the center of the whole there is a circular figure which, in the present case, has taken on the appearance of an eye. In the

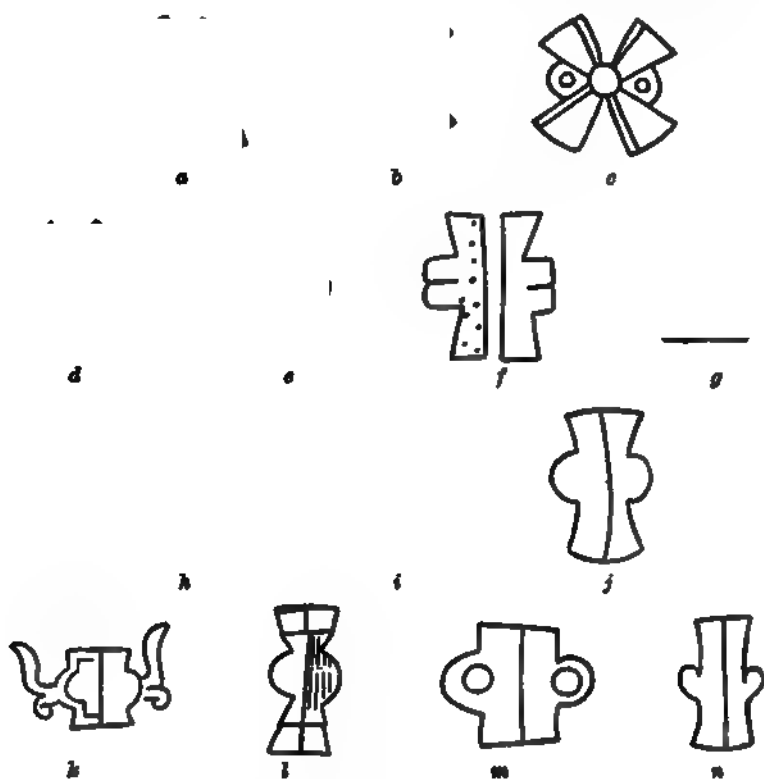


Fig. 34.—The Day-sign Motion (*Olin*)

famous highly elaborated altar stone in the Mexican National Museum, which usually goes by the name of the Aztec Calendar,<sup>16</sup> this central figure is filled with a great face which represents the sun. The meaning of this "motion" or *olin* design (fig. 34, *b*) is more or less of a puzzle. It sometimes occurs in the form shown in *d*, consisting of two angled figures fitted together or

<sup>16</sup> Leon y Gama, 1790; Chavero, 1876; Peñafiel, 1890, plates, vol. 2, p. 312, and corresponding portions of the text; Nuttall, 1901, p. 6; Maccurdy, 1910, p. 481 ff.

interlocked. It would be entirely possible to derive the forms like *b*, figure 34, from these simpler interlocked forms; but we know nothing at all about the real origin of these latter, and so we would be no nearer to a true explanation. It is worthy of remark that, in a general way, the normal form of this sign has something of the form of an X. It is moreover true that while the symbol stands for the word "motion," it is also associated with the sun. This fact may very likely be founded on a curious myth. The Aztecs, like a good many other peoples, have a myth which tells of a series of universal cataclysms. The first sun that was created came to an end in one of these cataclysms on the day Four-Wind. It was therefore named the "Wind" sun. After it was broken up another one was created which, at the close of the epoch, disappeared on the day Four-Tiger. This sun is therefore spoken of as the "Tiger" sun. Two more suns, disappearing on the days Four-Water, and Four-Rain, followed in series before our present sun came on the scene. In some mysterious way it is known that the present sun will disappear on the day Four-Motion, in which the sky will be broken up by an earthquake. It is therefore called the "Earthquake" or "Motion" sun, or *olin-tonatiuh*. The present writer is inclined to see in this myth<sup>77</sup> the real explanation of the association of this *olin* sign with the sun. It is of course possible to assume that the design stands for or directly represents the sun in some way, and that the myth was invented to explain that fact. The myth gives us, however, one definite reason why the sign should stand for the sun, and it seems a waste of time to go further afield, until there is more evidence. It would be easy to imagine half a dozen ways in which a graphic symbol for the sun might have degenerated into this sign. Imagine if you like that the original symbol for the sun was a disk with rays, and that these rays were gradually omitted until only four were left. These four, if skewed, would give the *olin* sign. Such theories represent mere mental gymnastics, unless a series of forms derived from a study of the monuments can be advanced to support them. The idea has

<sup>77</sup> See Maccurdy, 1901, for a most interesting paper on these myths and their representation on the monuments. Some of the most famous monuments of Mexican antiquity are connected with this story. Maccurdy's paper supplies a number of references to the literature.

actually been advanced that the *olin* sign represents the "four motions of the sun," that is, it stands for the four main points established by the sun in his yearly journey—the points of sunrise and sunset at the summer and winter solstices. If these points were plotted and connected diagonally by lines, we would have something approaching the *olin* symbol. It is worth noting, however, that the figure naturally produced would be a parallelogram, not an X. The sun moves not from the point in the southeast to the point in the northwest, but from the southeast to the southwest. We mentioned just above that the normal appearance of this sign represents an X. It is of some interest that the *kin* sign among the Mayas, which is also an X, is associated with the sun. Possibly a careful examination of the Maya mythologies would unearth some legend there corresponding to the Aztec story just mentioned.

If we take the sign shown in *b* as the complete or normal form, an idea for which there is some support in the fact that it is the most usual on the monuments, it is interesting to see which of its features are the most persistent in its career as a day-sign. It is obvious at once that its X-form readily becomes obscured. In *e*, figure 34, we have the two sides coalescing into a single figure with a straight line down the center. Seler<sup>18</sup> is inclined to see in this a picture of the sun disappearing into a cleft of the earth, the circle in the center being the sun, and the two sides day and night. This idea is based apparently on the fact that in figures of this type the two sides are often differently colored. It is somewhat hard to follow his reasoning here. It is in the first place quite unnecessary to make this assumption, as the figure can be plausibly explained in another way, and it leaves us, moreover, in more of a predicament than ever to account for the use of the sign to mean "earthquake" or "motion," which is certainly its literal meaning. The division of the sign into two differently colored surfaces is shown very nicely in figure 34, *f*. It will be seen in this figure (*b*) that of the original symbol we have the exterior outline, the circle in the center and the handles still remaining. It is a point of some

<sup>18</sup> 1900-1901, p. 14.

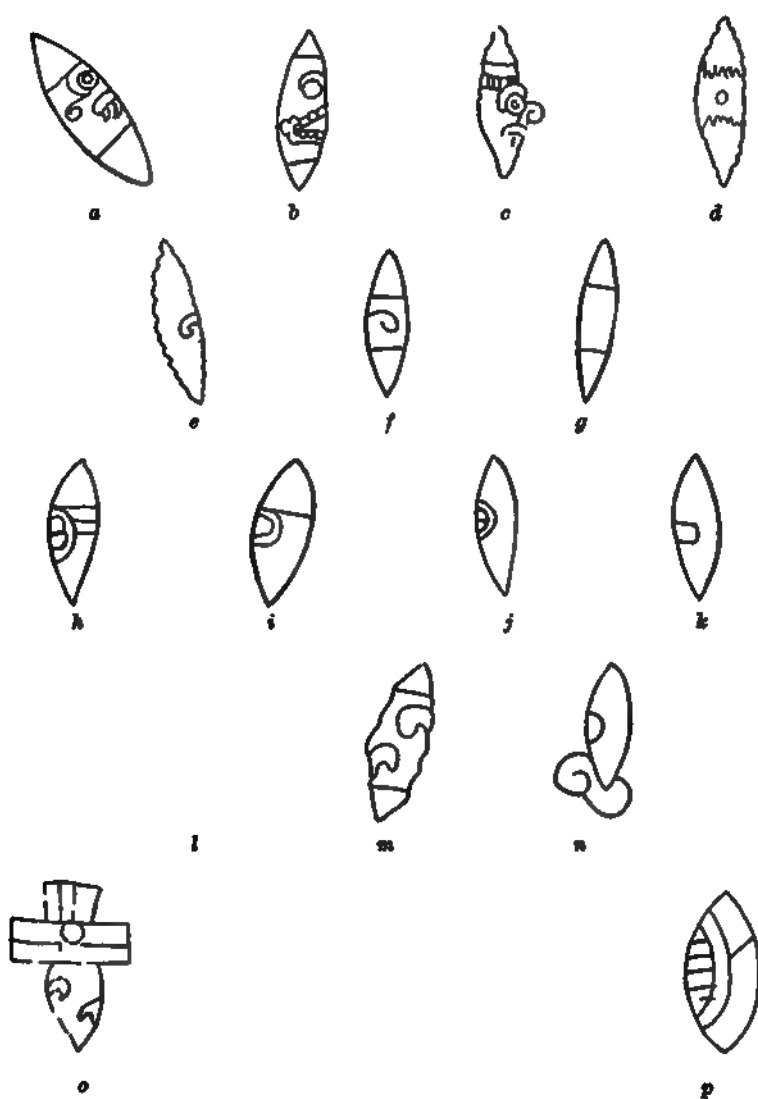


Fig. 35.—a-p, The Day-sign Flint (*Teopati*); q, Realistic Drawing of a Sacrifice, showing the Flint Knife in use

interest that it is precisely these handles that are most persistent in all representations of the figure. They occur in simple form in *a*, very much enlarged in *e* and *h*, and double in *f*. Even in *d*, the interlocked figure, they appear as crinkles in a corresponding location. In drawings like *n*, where the proper outline of the figure even has disappeared, these two handles remain. In *m*, which is a rectangular design, we have two perfect handles. In *k* they are ornamented with scroll figures which look surprisingly like the Aztec symbols for smoke. Certainly a person encountering for the first time a symbol like *l*, *m*, or *f*, would hardly associate it with the designs shown in *b*. The symbol in question, then, shows a great variety of form. I think we shall have to dismiss the whole question of the reason why "motion" or "earthquake" is represented by a double figure with a circle in the center and handles at the sides, as a complete mystery.

#### *Flint (Tecpatl)*

##### *Sources of drawings (fig. 35):*

<i>a</i> , Nuttall (Zouche), p. 53	<i>j</i> , Nuttall (Zouche), p. 7
<i>b</i> , Vatican B, p. 98	<i>k</i> , Nuttall (Zouche), p. 16
<i>c</i> , Bologne, p. 1	<i>l</i> , Bologne, p. 4
<i>d</i> , Nuttall (Zouche), p. 62	<i>m</i> , Vatican B, p. 1
<i>e</i> , Nuttall (Zouche), p. 56	<i>n</i> , Nuttall (Zouche), p. 24
<i>f</i> , Nuttall (Zouche), p. 32	<i>o</i> , Vatican B, p. 74
<i>g</i> , Nuttall (Zouche), p. 39	<i>p</i> , Aubin, p. 16
<i>h</i> , Nuttall (Zouche), p. 34	<i>q</i> , Nuttall (Zouche), p. 69
<i>i</i> , Nuttall (Zouche), p. 32	

The drawing at the bottom of figure 35 represents a scene which is quite commonly portrayed in the Aztec manuscripts. The subject is a human sacrifice. The barefoot victim, dressed in the usual Aztec waist-cloth, is stretched on his back over the altar stone. The officiating priest, his face covered with the black paint which is usual in religious performances, bends over the prisoner and cuts his heart out with a stone knife. The priest himself wears a waist-cloth, has a large ear-plug thrust through the lobe of his ear, and carries hanging on his arm a pouch. In general, it must be said, pouches are quite usually represented in connection with priestly rites. The scene here represented is one of the best examples of Aztec draughtsman-

ship. The victim's posture, his glazed, closing eyes, and the blood streaming from the incision are all realistically presented.<sup>79</sup>

The object of particular interest for the present purpose is the stone knife in the priest's hands. A few of these sacrificial knives for removing the heart in human sacrifices have been preserved to the present day. The best known specimen is the one inlaid with mosaic work which is preserved in the Christy Collection of the British Museum—a specimen which is a favorite subject for illustration by writers on Mexican archaeology.<sup>80</sup> A sacrifice scene similar to the one represented in the present figure is figured in the Magliabecchi manuscript.<sup>81</sup> The sacrificial knife as actually used consists of a double-pointed blade chipped out of flint, with one of the pointed ends fitted into a wooden handle. A knife of the same pattern was selected by the authors of the calendar to stand for the idea "flint." It was apparently the most commonplace or most familiar object made of that material.

The various forms of the day-sign are shown in figure 35, *a-n*. The first drawing, *a*, is perhaps the most typical. I am of the opinion that the other forms are derived from this one. At any rate, we find all the gradations from a knife with this appearance to one with merely a few simple lines where the elaborate design ought to be. The various drawings fit so well into a series that it is hard to resist the temptation to regard them as steps in an evolution. The most noticeable thing about *a*, figure 35, is that we have there a flint knife with a human face, consisting of eye, mouth, and teeth, represented along one edge. More peculiar still, the face seems to represent that of the rain-god *Tlaloc* (see figure 36 for the various forms). We have in the case of the present figure the goggle eye and the mouth full of long teeth which are so characteristic of the rain-god. As to why the rain-god's features should be represented on the day-sign "Flint," I have never heard a suggestion.

I have said that *a*, figure 35, represents the usual form of this face on the Flint day-signs. In figure 35, *b*, however, we have

<sup>79</sup> One of the most realistic and picturesque descriptions of such a place of sacrifice is the one by Juan Diaz (the chaplain of the explorer Juan de Cordova), quoted by Mrs. Nuttall. 1910, pp. 256-259.

<sup>80</sup> Peñafiel, 1890, vol. 1, p. 123; Tylor, 1861, p. 101; Joyce, 1914, p. 194.

<sup>81</sup> Nuttall, 1903, 58.

another and quite different form. Here we see the goggle eye, but instead of the *Tlaloc* face, in which the lower jaw is uniformly missing, and the upper jaw armed with long, fang-like teeth, we have a skeleton jaw with normal human dentition. It seems at least conceivable that the Aztecs represented these teeth on the edge of the flint-knife to symbolize the fact that the flint-knife cuts or bites. On the other hand, the drawing may symbolize especially the sacrificial knife, and the instrument may have been represented with teeth because the Aztecs thought of it as eating the heart of the victim. Figure 35, *c*, represents a degenerate form of this same drawing. In figure 35, *d*, we have still the knife, and we have the two lines across it transversely as in *a*. Nothing else is present, however, except a round dot in the center. It would seem almost necessary to conclude that this dot stands for the face as shown in *a*. It would be most plausible to assume that it is a remnant of the eye, all the rest of the face having dropped off. In similar fashion, the curl in *e*, and the still simpler curl in *f*, would seem to be the remnant of the mouth shown in *a*. In *g* all the facial features have disappeared, and we have nothing left but the two transverse lines. In *h*, *i*, *j*, *k*, *n* we have a series of simple designs which occupy the place that the face occupies in *a*, and which might easily be interpreted as degenerate forms of the face. There has, however, been more or less arbitrary elaboration and simplification of these designs. Perhaps the simplest is *k*. At the bottom of *n*, we see a curious curved design that possibly represents part of a haft or handle.

Figure 35, *l*, is another of the fanciful drawings which are rather usual in the Bologne manuscript. We have here the flint-knife with its face, but in this case a mannikin body has been fitted to it, and we have a complete person in a curious attitude, with both hands raised. The mannikin is dressed in waist-cloth and sandals, with long ornaments of a flexible sort attached to his wrists, and his body is painted black like that of the priest in sacrifices. We spoke a moment ago of the curious curl design which seems (fig. 35, *e*, *f*) to represent the mouth of our first original drawing. It is worth noting that if this is the real meaning of it, the artist in the case of *m*, figure 35, forgot that original meaning. He has drawn two of them, one on each side of the

blade. These two curls appear again in the case of *o*, although this latter is a realistic drawing of a flint-knife, with its handle and hilt plainly shown.

I should like to draw special attention to *p*, figure 35. This design represents the idea "Flint." There is no question about its identity, which can be determined from a consideration of the original series in which it occurs. Moreover, it is only a comparatively slight variation from some of the designs which represent the knife quite realistically (see *h*, *i*, etc.). The curved design at the edge of the blade has simply been expanded rather unduly. However, the drawing in *p* has gone so far from the original that it approaches very close to the Aztec representation of the ear of maize.

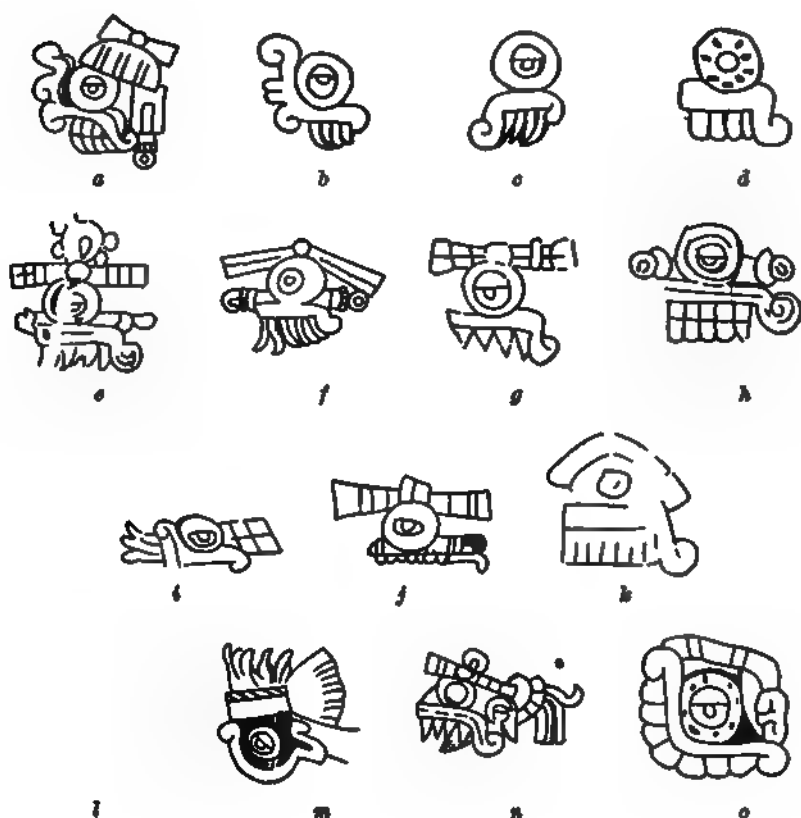
### *Rain (Quiahuitl)*

*Sources of drawings (fig. 36):*

<i>a</i> , Nuttall (Zouche), p. 37	<i>i</i> , Vatican B, p. 20
<i>b</i> , Nuttall (Zouche), p. 39	<i>j</i> , Borgia, p. 50
<i>c</i> , Nuttall (Zouche), p. 38	<i>k</i> , Vatican B, p. 75
<i>d</i> , Vatican B, p. 96	<i>l</i> , Bologne, p. 2
<i>e</i> , Vatican B, p. 1	<i>m</i> , Aubin, p. 3
<i>f</i> , Nuttall (Zouche), p. 46	<i>n</i> , Vatican B, p. 94
<i>g</i> , Vatican B, p. 58	<i>o</i> , Vatican B, p. 71
<i>h</i> , Vatican B, p. 1	<i>p</i> , Nuttall (Zouche), p. 37

As already noted in several places, the day-sign Rain is represented by the face of the rain-god. This divinity was called by the Aztecs *Tlaloc*. A figure of the god is shown in *p*, figure 36. There are several things in his appearance and costume in this drawing that deserve special notice. In the first place he is very elaborately dressed. He wears not only the customary sandals and waist-cloth, but also a belt with some elaborate ornament behind, and on his breast a necklace with a large circular pendant. At the back of his head there seems to be an additional ornament. Around his wrists are bracelets, and in his hand he holds what may perhaps be considered a stalk of maize and a ceremonial pouch. The head of this divinity, however, is the part of most importance for our purpose, since the head only appears as a





2

Fig. 36.—a-o, The Day-sign Rain (*Quiahuitl*); p, Realistic Drawing of the Rain-god, *Tlaloc*

day-sign. The figure we are discussing seems to represent a human being impersonating the god. We see in the drawing a human face, with hair coming down to the ear, and in this ear a complex ear-ornament. Part of the nose also is clearly visible. The facial features, however, are in large part obscured by something suggesting a mask. The eye is covered by a sort of goggle, and from this goggle a strip twists down over the face, running along the upper lip. From this strip over the mouth there depends a set of long tusks or fang-like teeth. This latter feature is the most characteristic part of the Tlaloc regalia. On the head, however, is a sort of cap surmounted by an ornament in two parts, one projecting forward, and the other to the rear. This ornament is also quite characteristic of the Tlaloc figure as usually represented. Let us now examine some of the variations of this figure when used as a day-sign.

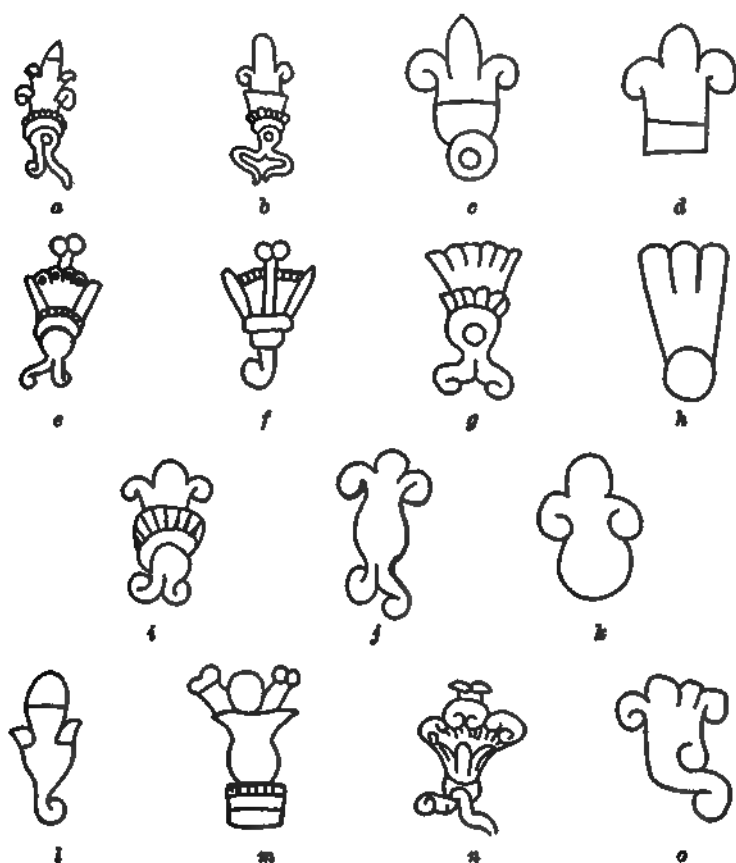
The most complete delineation is shown in *a*, figure 36. Here we have all the important features of the god realistically represented. We see the ear-ornament, the goggle eye, the strip or mask with the tusks attached, and the cap with the two ornamental flaps. In the next drawing, however (*b*), we have merely the eye and the strip with its tusks. In *c* we have an even simpler form than in *b*, and in *d* the eye looks like a simple ring, and the teeth like slats. The strip that carries the fangs is also clumsy in this drawing and much simplified.

The drawings in *e*, *f*, *g*, and *h* show different forms, and were chosen with special reference to the ornamental flaps on the cap. In *e* the teeth, eye, and strip are all present, but the two flaps have become just a straight bar. We have a curious bar added just above the teeth, the origin of which I cannot explain. It appears, however, in *f* and *h*. In *f* the teeth look like a soft fringe. In *g* we have just on the head a straight bar (representing apparently the cap ornaments), a round eye, and the teeth. The teeth are not, however, the fangs proper to a Tlaloc figure, as usually represented, but are the triangular teeth characteristic of the Water-monster symbol.

In *h* we see the eye, intersected by a bar, and a simplified set of teeth. Whether this bar is the cap ornament, or the extra bar which appears first in *e*, it is impossible to say.

In *i*, *j*, and *k* we have these same elements very much simplified and distorted. In *i* the teeth, lip-strip, eye, and another design, perhaps representing teeth again, are all arranged to form one horizontal figure. Recognition of this maze of lines as Tlaloc symbols would be almost impossible, if we did not have intermediate stages before us. In *j* the three most persistent elements appear, teeth, eye, and cap ornament, but the teeth are very degenerate, hardly more than a set of scallops. In *k* the whole design is loose and formless, the teeth square at the end instead of pointed, and practically all similarity to the realistic drawing is lost. In *l* we have another one of the fanciful drawings from the Bologna Codex. We have the various parts of the Tlaloc figure, cap with flaps, ear-ornament, goggle eye, and mouth. The whole takes on, however, an entirely new appearance. On the face appears a large patch of black face-paint. The mouth is without teeth of any kind, although the teeth are certainly the most characteristic of all the Tlaloc features.

In *m* we have a curious design from the Aubin manuscript. The goggle eye, the cap, and the fringe of long teeth are all there. The artist has drawn them, however, upside down. In *n* again we have all the parts, but arranged to give quite a different effect from any of the other drawings. The teeth, moreover, are of the Water-monster variety. In *o* we have a drawing that might easily be mistaken for the Water-monster symbol. It would almost seem that the artist had the Water-monster figure in the back of his mind. The drawing shows the goggle eye and the curved lip-strip. The teeth, however, have lost their long tapering shape, and the artist has made them follow around up the curve of the strip, giving almost exactly the effect of Water-monster's upturned snout. We have, however, behind the eye, an ear which would not be in place on the Water-monster design. Altogether, there is none of the symbols which is more complicated and distinctive than the representation of the Rain symbol, and yet there is no design which shows more marked variability or greater similarity to entirely independent symbols.



p

Fig. 37.—a-o, The Day-sign Flower (Xochitl); p, Realistic Drawing of a Plant in Blossom

*Flower (Xochitl)**Sources of drawings (fig. 37):*

<i>a</i> , Nuttall (Zouche), p. 43	<i>i</i> , Nuttall (Zouche), p. 2
<i>b</i> , Nuttall (Zouche), p. 53	<i>j</i> , Nuttall (Zouche), p. 15
<i>c</i> , Nuttall (Zouche), p. 3	<i>k</i> , Aubin, p. 4
<i>d</i> , Nuttall (Zouche), p. 43	<i>l</i> , Nuttall (Zouche), p. 76
<i>e</i> , Nuttall (Zouche), p. 51	<i>m</i> , Nuttall (Zouche), p. 6
<i>f</i> , Nuttall (Zouche), p. 52	<i>n</i> , Aubin, p. 6
<i>g</i> , Nuttall (Zouche), p. 16	<i>o</i> , Nuttall (Zouche), p. 19
<i>h</i> , Fejervary, p. 17	<i>p</i> , Fejervary, p. 5

Figure 37 represents the various forms of the day-sign Flower. There is considerable variety in these drawings, but they all represent obviously the same thing, namely a blossom. The most usual outline is perhaps that of the fleur-de-lis. This appears, for example, in *a* and *b*. In some cases, however, the blossom is quite painstakingly portrayed with stem, petals and stamens. (See, for example, *e*, *f*, and *n*.) In other cases this flower figure becomes so simplified that it can scarcely be recognized at all. The most extreme case of this is perhaps *h*, in which all likeness to the flower is lost. In one or two cases in the manuscripts the blossom is represented in a geometric fashion. An example of this is shown in *f*. The most realistic forms are possibly *e* and *n*, where the various parts of the blossom are shown in their natural relations. In *j*, *k*, and *o*, however, the drawings become quite grotesque and are hardly recognizable at all.

Figure 37, *p*, shows a plant in blossom. The similarity between these blossoms and those drawn to represent the day-sign Flower is so marked that a case of identity seems to be established. The plant represented in *p* is apparently a cactus, and in all probability the ordinary "prickly-pear," in Aztec *nochtli*, that is quite common on the Mexican plateau. This seems to be indicated by the way in which the oval leaves are joined. That the plant is the cactus is suggested also by the presence of the long thorns. As in many cases, there is represented at the bottom of the plant the root. It seems altogether likely, then, that the Aztec day-sign Flower represents really the flower of the prickly-pear cactus.

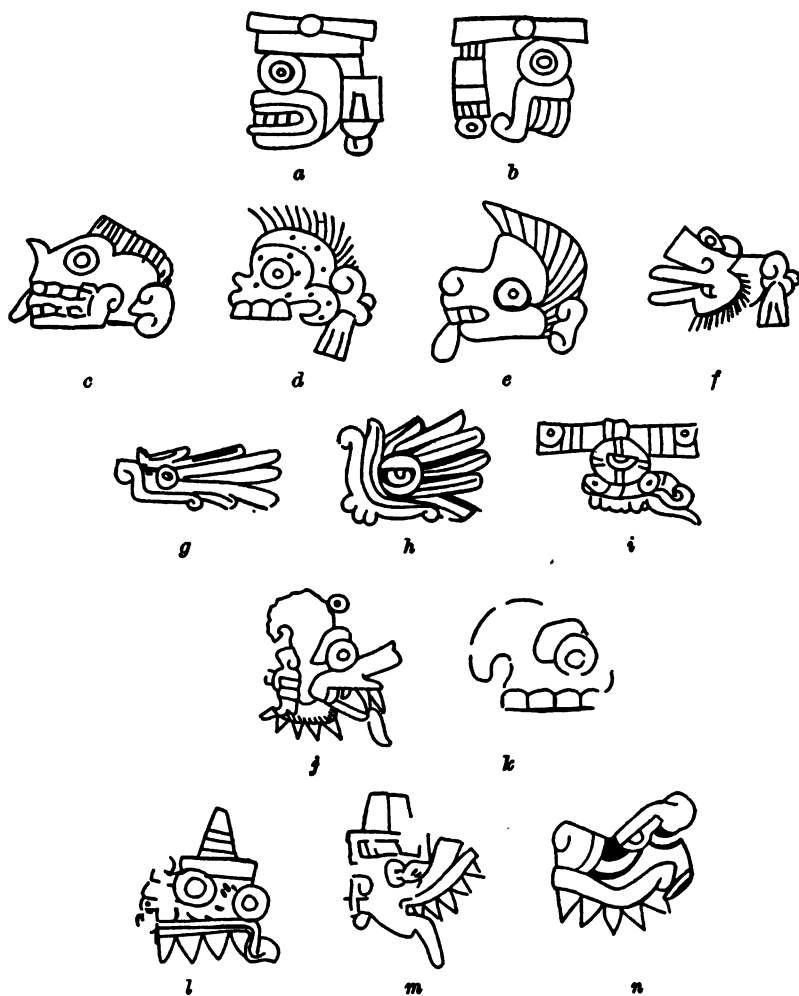


Fig. 38.—Drawings showing the Borrowing of Characteristics between the Various Day-signs

*Sources of drawings (fig. 38):*

<i>a</i> , Nuttall (Zouche), p. 71	<i>h</i> , Borgia,	p. 64
<i>b</i> , Nuttall (Zouche), p. 12	<i>i</i> , Borgia,	p. 5
<i>c</i> , Vatican B, p. 88	<i>j</i> , Bologna,	p. 3
<i>d</i> , Fejervary, p. 5	<i>k</i> , Vatican B,	p. 21
<i>e</i> , Nuttall (Zouche), p. 11	<i>l</i> , Vatican B,	p. 62
<i>f</i> , Fejervary, p. 9	<i>m</i> , Vatican B,	p. 96
<i>g</i> , Borgia, p. 57	<i>n</i> , Vatican B,	p. 28

## BORROWING OF CHARACTERISTICS

Mention has been made in so many places of the borrowing of characteristics between different day-signs that the matter may deserve special illustration. Figure 38 shows a number of drawings in which this borrowing has taken place. These are particularly picturesque examples and will serve perhaps to conclude the whole matter. In *a* and *b* of figure 38 we have two typical day-signs. The first of these, *a*, represents the monkey quite realistically. It will be seen at once, however, that he has borrowed the flat two-flapped cap that is characteristic normally of the Rain sign (*b*). Monkey, it will be remembered, is represented normally with a crest (see *e* of the present figure). The presence of the cap, then, in *a* is simply a case of outright borrowing. On the other hand, in *c*, *d*, and *e* of figure 38, we have a case where the monkey loans one of his features. The first of these drawings (*d*) represents the day-sign Death and consists primarily of a skull. The skull is topped, however, by a crest which has been borrowed obviously from the monkey (see *e* of this figure). The monkey is the only animal normally represented with this feature. It will be remembered, too, that one of the characteristic things about the monkey is the presence of an ear. This monkey ear appears quite inappropriately on the skull shown in *c*. In the Death symbol shown in *d*, an ear-ornament belonging to the wind-god has been borrowed (see *f*, figure 36). In *d*, therefore, the artist borrowed two features, the crest from the monkey and also the wind-god's ear-ornament.

In *g*, *h*, and *i* we have a curious example of borrowing. *g* represents the symbol for water, which is a dish with water pouring out of it, and a little circular object in the center representing a shell. In *i* we see a typical representation of rain-god, the central feature of which is a semi-circular eye. Figure *h* is a representation, like *g*, of water. Instead of a shell, however, the artist represents in its midst an eye which he has apparently borrowed from the Rain symbol.

In *j*, figure 38, we have a representation of the wind-god. He has the usual wind-god's snout with the opened mouth and an eye. He has, however, borrowed from the skull sign (see *k*) an

additional eye, and the hooked rear portion of the skull. We have then in *j* a curiously complicated and rather meaningless figure—a wind-god with beak and ear-ornament topped by a cranium and a loose eye borrowed from the symbol of Death.

In the last three drawings of the figures *l*, *m*, and *n*, we see a curious case of interchanging of traits. Let us direct attention first of all to the water-monster drawing (*n*). The important things here are an upcurved snout ornamented with big triangular teeth. In *l* we have a representation of the rain-god standing for the day-sign Rain. In drawing this latter symbol, however, the artist borrowed two things. In the first place he borrowed the teeth from the water-monster, and in the second place, the pointed cap or mitre from the god of wind. On the other hand, the wind-god here represented (*m*) is shown with an upcurved beak, obviously an imitation of the water-monster; and this curved beak is ornamented with typical water-monster teeth.

#### CONCLUSION

I should say by way of summary concerning the general tendencies which operate in the delineation of the day-signs, that there is, in the first place, wide variation in type. It must be noted that this variation is not due to historical development; on the contrary, it is due in large part to conscious elaboration or abbreviation on the part of each artist. We sometimes find two widely variant forms in one day-sign, one perfect, the other degenerate, side by side on the same page of one manuscript. The difficulty in recognizing the day-signs, where there is any difficulty, arises from the fact that there are no hard and fast criteria for the recognition of the symbols. One symbol may gradually change until it closely resembles another. To render this approximation still more marked, we have the curious borrowing which has just been illustrated, in which perfect features from one day-sign are transplanted and appear entire in the drawings of another. The amount of variation is so great that an almost unlimited number of examples could be chosen. The day-signs as they are drawn in the manuscripts offer many examples of divergence.



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THE MUTSUN DIALECT OF COSTANOAN  
BASED ON THE VOCABULARY  
OF DE LA CUESTA

BY  
J. ALDEN MASON

CONTENTS

	PAGE
INTRODUCTION .....	400
PART I. STRUCTURE .....	402
General Characteristics .....	402
Phonetic System .....	402
Parts of Speech .....	405
Nouns .....	405
Etymological Suffixes of Nouns .....	406
Morphological Suffixes of Nouns .....	408
Pronouns .....	411
Verbs .....	411
Etymological Suffixes of Verbs .....	412
Morphological Suffixes of Verbs .....	415
Adjectives .....	425
Particles .....	426
PART II. CLASSIFIED LIST OF STEMS .....	427
Nouns .....	427
Animals .....	427
Botanical .....	429
Body Parts .....	430
Manufactures, Instruments .....	433
Natural Phenomena .....	435
Words of More Abstract Significance .....	436
Terms of Relationship and Personal Categories .....	437
Numerals .....	439



	PAGE
Pronouns .....	439
Demonstratives .....	440
Adjectival Pronouns .....	440
Interrogative Pronouns .....	440
Verbs .....	441
Adjectives .....	461
Adverbs .....	466
Locative Adverbs .....	466
Temporal Adverbs .....	466
Descriptive and Miscellaneous Adverbs .....	467
Interjections .....	468
POSTSCRIPT .....	470

### INTRODUCTION

A century ago Father Felipe Arroyo de la Cuesta, one of the most earnest and indefatigable members of the order of St. Francis, collected a mass of 2884 words, phrases, and sentences from the language of the Mutsun Indians, spoken at his mission of San Juan Bautista near Monterey, California. At about the same time he composed a grammar of the language, which is one of the branches of the Costanoan linguistic group. These two manuscripts were sent by Alexander S. Taylor to the Smithsonian Institute, which loaned them for publication to John G. Shea, in whose *Library of American Linguistics* they appear as volumes iv and viii, 1861 and 1862. Together they form one of the fullest and most complete collections of data extant on a Pacific Coast language. There is little doubt that the missionary knew the language well and interpreted its psychology and spirit fairly correctly. In his grammar there appears less strict adherence to the form and structure of Latin grammar, less subconscious premise of Latin as the standard *par excellence* than is generally found in grammars of this time and type. Nevertheless, in spite of the comparative excellence of the grammar, but because of its lack of scientific arrangement, unphonetic orthography, and the foreign tongue, it is deemed better to rearrange and formulate the grammar, using as a basis the phrases of the vocabulary.

The phrase-book is likewise unfortunate in that it is at present almost inaccessible to the modern student, due to its faulty arrangement. This is done alphabetically according to the initial

letter of the sentence, the various stems being scattered throughout the nearly three thousand sentences. The same difficulties of unphonetic orthography and Spanish language likewise obtain here.

Several years ago Dr. Kroeber had the majority of the phrases comprising the more important of the sentences copied to a card-index. I have recently spent some time in working over the material thus secured, arranging cards according to stems and isolating grammatical particles. The following paper embodies the results of this research.

While the grammar of De la Cuesta is the most complete ever published on a Costanoan language, several more scientific treatises have been produced in the last few years, principally by the University of California. These are, "Languages of the Coast of California South of San Francisco,"<sup>1</sup> and "The Chumash and Costanoan Languages."<sup>2</sup> Other pertinent works are "Phonetic Constituents of the Native Languages of California,"<sup>3</sup> "The Native Languages of California,"<sup>4</sup> and "New Linguistic Families in California."<sup>5</sup>

The present paper consists of two parts, first an exposition of the etymological and morphological elements upon which the structure of the language is based, and second a list of the various stems of all classes found in the material, though, since not all of the phrases were transferred to cards, this does not entirely exhaust all those in the original phrase-book. These are appended partly as reference for the examples of morphological and etymological word-structure previously cited, but more particularly as an aid to the larger work of comparison of Mutsun with kindred Costanoan and other extra-group languages. The recent proposal of the "Penutian" linguistic family, to which Mutsun would belong, renders such a glossary invaluable for purposes of comparison.

<sup>1</sup> A. L. Kroeber, present series, II, 29-80, 1904.

<sup>2</sup> *Ibid.*, IX, 237-271, 1910.

<sup>3</sup> *Ibid.*, X, 1-12, 1911.

<sup>4</sup> R. B. Dixon and A. L. Kroeber, *American Anthropologist*, n.s., V, 1-26, 1903.

<sup>5</sup> *Ibid.*, n.s., XV, 647-655, 1913.

## PART I. STRUCTURE

## GENERAL CHARACTERISTICS

The surprisingly close similarity between the general morphologic structure and *Sprachgeist* of Costanoan and other languages of its type and Indo-European has already been noted but is none the less striking. The main characteristics of the language may be thus summarized. Phonetic simplicity and comparative unimportance of rules of phonetic change; complete lack of incorporation, either nominal or pronominal; complete absence of prefixes; independent pronouns; nominal case endings; and comparative simplicity of categories of mood, tense and number, necessitating an immense number of dissimilar stems of relatively slight difference in significance.

## PHONETIC SYSTEM

The phonetic system of Mutsun and of Costanoan appears to be relatively simple. The vowels are *a, e, i, o, u*, all appearing open in quality. The Spanish orthography is perfectly satisfactory for expressing these sounds and no change has been made in transcription. Rarely a vowel is found in the phrase-book with circumflex accent and very rarely with acute accent, but as no uniformity in thus spelling any word is evident, and as the phonetic variation thus expressed is not described, such marks have been disregarded.

The consonants seem to be only *w, y, m, n, l, r, s, c, x, h, p, t, ʈ, k*, and *tc*. *m, n, l, r, s, p*, and *t* (dental or interdental) are probably correctly expressed in De la Cuesta's Spanish orthography and are left unchanged. *w* is generally expressed in Spanish by *hu* with following vowel. De la Cuesta writes *hua, hue, hui*, and once *hüo*. He further uses often *gua, güe, güi*, and *guo* which denote in Spanish *gwa, gwe, gwi* and *gwo*. There is no sonant *g* in Costanoan, though the *k* has an intermediate quality. We find, however, that, though the *hu-* and *gu-* orthographies are each generally used consistently for certain stems,

there are occasional cases of identity, e.g., *guallun*, *huallun*, *huolon*, "be envious;" *huilo*, *guilo*, "signal 'yes' with the eyes;" *huipa*, *güipa*, "invite"; *güeren*, *weren*,<sup>6</sup> "rabbit." Similarly the *gu-* orthography without the diæresis, *gue*, *gui*, is found often. This denotes pure sonant *g* in Spanish, a sound missing in Costanoan. Instances of a stem both with and without the diæresis are common, e.g., *gueiero*, *güeierogmin*, "great," and it is probable that such omissions of the diæresis are accidental. Therefore all *hu-* and *gu-* orthographies have been changed uniformly to *w*. Medial *w* is probably expressed by *u* with following vowel, but it often is difficult to decide whether a given *u* is vocalic or consonantal.

*y* is expressed correctly except in certain combinations; De la Cuesta's *ñ* probably denotes *ny*. (In a few cases of doubt it has been retained as *ñ*, as in suffix *pañ*.) *i* and *y* are sometimes interchanged, as *yttug*, *ittug*, "a seed." Here also it is often difficult to distinguish vowel and consonant.

*c* (*sh*) is not definitely distinguished by De la Cuesta but is suggested by certain *sh*, *sch* orthographies. Had he distinguished the sound he would probably have written it with an *x* in accord with older Spanish usage.

*x* (palatal surd fricative) presents some difficulties. Initially it is doubtless represented by *ja*, *ge*, *gi*, *jo*, *ju*. Medially the same orthography is utilized. Final *x* seems to be represented by *g*, e.g., *uming*, *mū'ix*,<sup>6</sup> "wolf;" *eg*, *ex*,<sup>6</sup> "squirrel." De la Cuesta's *g* in consonantal combinations offers the most uncertain of the phonetic problems. *tigsin*, "skunk," is checked by Kroeber's *tixsin*,<sup>6</sup> rendering it practically certain that *g* in this case represents *x*. On the other hand, *g* before *m* and *n* probably represents *k*. Thus *cma* and *gma* are both used as a plural suffix. *gne* is a common passive suffix. Kroeber has *nimikne wākai*,<sup>6</sup> "he hit me," doubtless the same suffix. Kroeber transcribes *tansagte*, "ten," *tansakte*, but *atsiagnis*, *atsiaznis*.<sup>7</sup> Substitution has here been made on the theory that *g* before a surd represents the continuant *x*, while before a sonant or intermediate it represents the palatal stop *k*.<sup>7</sup>

<sup>6</sup> A. L. Kroeber, MS.

<sup>7</sup> See postscript below, p. 470.

Initial and medial *h* may be silent, as in modern Spanish, but since it is regularly employed in certain stems, and as both *h* and *x* are found in most Costanoan texts, it is retained.

*ʃ* is the tongue-blade *t* found in the Costanoan and neighboring languages. De la Cuesta wrote variously *tr*, *th*, *thr*, *thrs*, *trs*, etc. It is often difficult to decide whether the last consonant of the complex is a distinct sound or not.

Following Spanish usage, *k* is denoted by De la Cuesta by *c* before *a*, *o* and *u*, and by *qu* before *e* and *i*.

The affricative *tc* is regularly written by De la Cuesta *ch* but often confused with *ʃ*.

Doubled letters, both consonants and vowels, are frequently met with in De la Cuesta's orthography. As these are foreign to the Spanish language, except in the cases of *ll* and *rr*, it is assumed that the device is employed to express length or duration of the sound and is therefore expressed in the present paper as the simple sound followed by inverted period, in accord with modern usage.

The Spanish language is, on the whole, a far better medium for the recording of unfamiliar languages by an untrained ear than the unrevised English. In the great majority of cases there is no question as to the exact phonetic rendering of the native words, and in a great number of cases they may be left in their original forms. Only in cases where sounds unfamiliar to the Spanish ear occur is difficulty found. Such are *w*, the peculiar tongue-blade *ʃ* common to certain California languages, and un-Castillian combinations of sounds. Little difficulty has therefore been encountered in transcribing the native words to modern phonetic orthography, which is doubtless an advisable procedure.

The chances for frequent error in so many transcriptions and changes in authorship are too great to allow any phonetic discrimination or any elucidation of the finer and less evident points of the language. Shea's impression is replete with errors of transcription from the Padre's manuscript, and these may be increased in the present digest. Many words are spelt variantly, sometimes on the authority of the original, at other times manifestly due to improper reading of the manuscript. This is particularly true with regard to the easily confused *m*, *n*, *u*, and *i*.

Nevertheless, a few pertinent remarks may be made on Mutsun phonetic laws. The language is phonetically smooth and simple, the average word being an orderly alternation of consonant and vowel. Either consonant or vowel may begin or end a word, but consonantal combinations seem to be missing initially or finally, the few recorded cases being probably due to error. Medially certain combinations are permitted, though it is not easy to determine these. Thus, *lalak-na*, "go for geese," becomes by metathesis *lalkana*. Similarly, certain suffixes are varied in order to avoid unwieldy and harsh complexes, as *kai-s*, but *men-se* (interrogative); *uta-kma*, but *inis-mak* (plural). There appears also to be a feeling for vocalic harmony, and some suffixes are varied to the end that their vowel may correspond and harmonize with the characteristic or stem vowel of the word. Thus *sumi-ri-ni*, but *towo-ro-ste*; *xana-ksa*, but *tare-kse*. Again certain vowels seem to be dominants and survive in assimilation or elision. Thus the past tense suffixes *-is* and *-in* are dominant and *-kne-is* becomes *-knis*; *-pu-in*, *-pin*. A thorough phonetic study of the language would doubtless codify all these rules and elucidate many others.

#### PARTS OF SPEECH

Mutsun recognizes as parts of speech the noun, pronoun, verb, adjective and particle, though, as in English, the division is a more or less artificial one, the lines of demarcation are not hard and fast, and it is sometimes difficult to assign properly a given word, which may not uncommonly function in several categories without change in form.

#### NOUNS

The great majority of Mutsun nominal stems are dissyllabic or trisyllabic. A few of the most common stems, such as many body-parts, are monosyllabic, and a very few apparently polysyllabic stems are found. Nominal stems appear never to be compounded and are varied only by the addition of a few suffixes. Stems appear to begin and end with either vowel or consonant without discrimination, and there seem to be no categories of stem types, such as for animate or inanimate, natural or arti-

ficial. That is, it is not possible to infer from the form of the word or from its suffix the category to which it belongs. Yet there are a few etymological suffixes in occasional use. Those making verbs are given below; those forming nouns follow here.

### *Etymological Suffixes of Nouns*

1. *-n, resultative, infinitive.* Suffixed to verbal or other stems denotes result or phenomenon of an act.

noso-n	breath, spirit, soul
sike-n	flatus
paine-n	menstruation
oṭa-io-n	wound
sawe-n	song

Possible cognate:

tor-on	amole
xasi-om	shame
mira-mi-n	gift
es(x)e-n	dress
isme-n	sun

2. *-s, -s-e, (-se, -si), causative, abstractive.* Suffixed to verbal or other stems denotes cause or phenomenon of an act, and is generally used with words of abstract significance.

una	cure	una-s	remedy
ritca	speak	ritca-s-e	language
isut	dream	isut-s-e	a dream
kapal(a)	embrace	kapala-si	an embrace
kai	hurt	kai-s	pain
eṭe	sleep	eṭ-se	sleepiness
xase	become angry	xa-s	anger
xemṭso	silent	xenkotṭe	silence

Probable cognate is:

3. *-pis, (-mis, -sis), instrumental.* Suffixed to verbal or other stems denotes instrument or means for the performance of an act.

xewe	cast shadow, reflect	xewe-pis	shadow, reflection
at-ue	watch	at-as-pis	lookout
eyes	beard, shave	eyes-pis	beard-napkin

itok	cleanse	itok-pis	table-cloth, napkin
rora(s)	play	rora-mis	toy
isme-n	sun	isme-sis	clock
sukumu	smoke	sukumu-s-pis	end of cigar

4. *-msa, (-nsa), instrumental*. Suffixed to verbal or other stems denotes instrument or means for the performance of an act.

humiri	baptize	humiri-msa	baptismal font
ene	write	ene-msa	eraser, blotter
ama	eat	ama-msa	meals
tcala	urinate	tcala-msa	bladder
iisi	owe	isi-msa	debts

Probably also:

unupimsa	handkerchief
rotemsa	papers
siamalpimsa	confession
yisuwaininsa	corns

5. *-pan, -pañ, agentive*. Suffixed to verbal stems denotes the more or less habitual doer of an act or the exponent of a quality.

yume-pañ	liar
maxer-pan	one who makes sport of another with the eyes
notio-pañ	one who denies the truth
nimi-pañ	beater
yoso-pañ	lustful, lecherous
latue-pan	one who is always making signs with the tongue
ol.ue-pañ	one who signals with his hand
pitiwi-pan	cleanser of hair
li-pan	hider
nimi-pan	striker, hitter

Other isolated examples of etymological nominal suffixes are:

ruk	cord	ruk-esma	doubled cord
upu	buy	upu-nsatpa	payment
usupu	fast	usupu-hai	Lent, time of fast-ing
mai-xi	laugh	mai-t	a laugh, laughing
mira	give present	mira-x, mira-mi-n	gift
koxo	load of meat	koxo-enis	bringer of load of meat
pux-ʔa	make bread	pux-uʔs	bread



krak-e	name, call	krak-at	a name
soko-ṭe	laurel	soko-tei	laurel fruit
riṭe	decorate with beads	riṭe-ni	feminine adorn- ment
mukur-ukispu	act like a woman	mukur-ma	woman

Reduplication seems to play an unimportant role in Mutsun morphology. A few words are found in which the first syllable is reduplicated but there is no evidence that the phenomenon is of any morphological importance. Practically all of the instances occur with names of animals or plants.

mumuri	fly
mumulaluk	butterfly
lalak	geese
lukluk	geese
kakari	raven
soksoKian	sensonte
porpor	cottonwood
ṭoṭolua	plantain

#### *Morphological Suffixes of Nouns*

The Mutsun language is a comparatively simple one morphologically, being quite comparable to modern European languages in this respect. But few changes in inflection for the declension of nouns and the conjugation of verbs are found. These will be noted below.

The noun is inflected for differences in number, case, and in some cases even for person. Gender is, as commonly in American languages, not recognized, unless in sporadic etymological categories.

Many, if not all, animate nouns take a pluralizing suffix. This is:

##### 6. *-kma, -mak, plural.*

sini	boy	sini-kma, sin- kma	boys
		ataspis-mak	lookouts
		uṭa-kma	parents
		uhinis-mak	fishermen
		uras-mak	hole-diggers
atsia	girl	atsiai-kma	girls

<i>pasear</i>	(Sp.)	<i>pasear-is-mak</i>	passers-by
		<i>wateir-on-mak</i>	the Guachirunos
<i>ka</i>	daughter	<i>ka-kma</i>	daughters
<i>inis</i>	son	<i>inis-mak</i>	sons

It is also used with substantive adjectives.

*-kma* is doubtless the original form and is used after a vowel, *-mak* being employed after a consonant to avoid harsh complexes, though there are exceptions.

There appears to be no dual number.

The various nominal case relations are expressed by suffixes which may be interpreted as postpositions, but are probably as correctly explained as true case inflections. These are:

7. *-was, -uas, compositional, partitive, material.*

<i>ores-was</i> ʔap	hide of bear
<i>xut--was</i> toʔe	meat of belly
<i>xurek-war</i> ruk	cord of sinew
<i>orpe-was</i> eʔse	middle of night

8. *-me, terminative.*

<i>patre-me</i>	into the house of the Padre
<i>me-me</i>	to you, with you

9. *-se, -s-e, -ne, -he, objective.*

<i>aisa-ne</i>	(see) them
<i>kairka-s-e</i>	(try) pinole
<i>moro-s-e</i>	(hunt) moles
<i>krakat-se</i>	(know) name
<i>kapxan-ne</i>	(strike) three
<i>inu-se</i>	(take) road
<i>soton-he</i>	(blow) fire
<i>etc.</i>	

10. *-sun, -sum, -um, instrumental.*

<i>ak-sun</i>	(die) of hunger
<i>mait-sun</i>	(die) of laughing
<i>ʔala-sun</i>	(die) of heat
<i>ekweʔs-sum</i>	(conceived) in sin, (choked) with sin
<i>xai-um</i>	(speak) with the mouth
<i>urkan-um</i>	(thresh) with the mortar

11. *-tka, -tak, locative.*

tapur-tak	(hung) in tree
urkan-tak	(grind) in mortar
xumes-tak	(hidden) in grass
oŋe-tka	(speak) in ear
wima-k-tak	(wound) in wing
ekwaest-i-tak	(wallow) in sin

*-tka* seems to follow vowels, *-tak* consonants to avoid complexes.

12. *-ŋu, comitative.*

tansen-ŋu	(eat) with younger brother
ap-a-ŋu	(dance) with father

A possible suffix with more the force of a postposition is:

13. *-tun, -tum, regressive.*

tina	here	tina-tun, tina-tum	from here
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In the case of terms of relationship there are sometimes diverse endings according to the grammatical person. Thus:

		1 14. -s(ŋ), "my"	2 15. -t(ŋ), "thy"	3 16. -n(ŋ), n, "his"
apa	father	apsa		
ana	mother	ansa		
taka	elder brother	taksa		taknan
tare	younger brother	tarekse	tarekte	
taha	elder sister	tahasa		tahanan
papa	grandfather	papsa		
et-e	grandfather	et-se		
tcire	grandmother	tcirsi		teinin
xan-a	wife	xan-aksa		xan-an
sit	child			sitnun
me(ne)	grandmother	mense		menen

The basis of this is plainly an infixation of *-s-* before the characteristic vowel for the first person possessive and the substitution of *-nŋn* for the third person, where *ŋ* represents the characteristic vowel. The *ŋk* of *tar-ek-se* and *xan-ak-sa* are sporadic. This may be the vestige of a once fully functional genitive case. No other instances are found in the language. The *-t-* of the second person is very dubious.

## PRONOUNS

The pronoun, as before stated, is independent and never morphologically welded with the verb or other part of speech. The six representatives of the two numbers and three persons are distinct and those of the third person seem to have little or no demonstrative force. The case endings, particularly the *-s* of the objective, are suffixed also to the pronouns. The possessive pronoun is often identical with the subjective form, though generally one form is exclusively subjective. The pronoun has a tendency toward combination with other pronouns and particles. Thus we find such forms as *ka-mes*, "I-you," this being the most frequent; *kat* (*ka-et*), "I in future time"; *kas-hiha*, "I also."

The pronominal stems are monosyllabic or at the most dissyllabic and quite dissimilar for the various persons. The first and second personal plural pronouns, however, commence with the syllable *mak-*, doubtless cognate with the pluralizing suffix *-mak*.

Demonstrative and adjectival pronouns are numerous and invariable.

Detailed lists of all classes of pronouns will be found in Part II.

## VERBS

The typical Mutsun verbal stem is dissyllabic, ending in a characteristic vowel. This may even be the invariable rule, apparent infractions and exceptions being due to error or presence of unsuspected etymological or morphological elements. The characteristic vowel is not inalienably welded to the stem, since certain infixes are added between stem and characteristic.

Like nouns, verb stems take no prefixes, all morphological mechanism being attained by means of suffixes. A few solitary examples of possible verb-stem combination have been found which may be differently interpreted on fuller acquaintance with the language.

<i>up-xi(ni)</i>	roll, fall (scissors)
<i>xin(e)</i>	go, walk
<i>up-uru(ni)</i>	slip, fall (person)
<i>uru(ni)</i>	fall
<i>up-ki</i>	roll, seize (log)
<i>at-ki</i>	break, seize (log)
<i>at-e, atse</i>	break

Reduplication of verbal stems is practically unknown in Mutsun. A few sporadic cases are found, however, which seem to have the iterative significance frequently denoted by this means in American languages.

polso	painted	polpolai	dotted, streaked
tule	knock	tultul-e	palpitate
		pulpul-e	palpitate
tipe	wander	tiptipe	wander

It is a difficult and largely an artificial task to separate verbal particles into etymological and morphological elements. Nevertheless certain of these appear to belong to the former category and others may be placed there merely for the lack of evidence of morphological significance.

#### *Etymological Suffixes of Verbs*

17. *-te, possessive.* Suffixed to nominal stems denotes possession of the object.

otco-te	possess ears
kraka-te	possess name
sitnun-te	have children
pultei-te	have full breasts

18. *-kis-, (-wis-, -pwis-), imitative.* Suffixed to nominal or other stems denotes imitation of person or act. The reflexive suffix *-pu* is normally added.

mam-anxa-kis-pui	act like a fool
mukene-pwis-pu	act like a man
mukuru-kis-pu	act like women
monsie-kis-pu, (-wis-pu)	act like a sensible person
sawe-wis-pu	pretend to sing

19. *-na, purposive.* The verbal suffix *-na*, "go to do," functions also as an etymological suffix to noun stems, denoting in this case "go for."

lalak	geese	lalka-na	go for geese
sirak	nuts	sirka-na	go for nuts
weren	rabbit	were-na	go for rabbits

20. *-mi, dative.* Likewise the verbal suffix *-mi* may be suffixed directly to nouns, functioning as an etymological suffix and denoting gift of the object. It is generally or always used with the imperative and the first person singular object.

ruxe	arrow	ruxe-mi-tit	give me arrows
ma-ter	tobacco	ma-sue-mi-tit	give me tobacco
setne	acorn-bread	setne-si-mi-t	give me bread

21. *-ti, substantive.* A possible substantive suffix is found once:

tanses	brother	tanses-ti-(s)	be a brother
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22. *-u-, oppositional.* Infixd before characteristic vowel of verbal or other stems denotes significance opposite to that of simple stem.

xiṭ-a	sew	xiṭ-ua	rip
piṭ-e	tie	piṭ-ue	untie
paṭ-i	seize, grab	paṭ-ue	loose
rotko	knot	rotuk	untie knot
kitca	lock with key	kitcua	open with key
rotcio	enveloped	rotciwe(wi)	freed
teuni, ṭunuu	fold, pleat	teunuhwi	open, unfold

23. *-r-, excessive.* Followed by the characteristic vowel appears to denote a psychological cause for the condition described.

sumi	be content	sumi-ri-ni	sleep from satiety
siwi	burn	siwi-ri-ni	sunocate from heat
towo	be rigid	towo-ro-ste	be stiff from cold
seso	shiver	seso-r-po, (seso-n)	shiver from fear

24. *-ṭ-, corporeal.* Followed by a vowel in harmony with preceding one generally refers to action with or on parts of body.

latne-ṭe	long tongue, (he) extends his tongue
lel-uer-ṭe	roll (eyes) too much
kai-ṭi	tighten (it)! make (it) fast!
rau-ṭa-smin	with large occiput
mup-ṭu	shut your mouth!
pelṭe, peṭe	shut eyes
peṭe(ni)	keep mouth closed
poṭo	pluck hairs
kaṭaṭa	cross hands

25. *-te, -ti, (-it)*.

tere-ti-s	(you) have cut (your hair)
nam-ti, nam-it	(I have not) understood, heard
kili-te	(it) sparkles
yaṭa-ti, xop-o-ti,	(did he give you) anything, a drink,
ilsi-mi-ti, olte-mi-ti	meat, pinole?
insu-ti, insu-te	(you) know (it)
upxi-ti (or upxi)	(let me) drink a little
wipa-ti	(will) invite (you)
ole-ti	(I) seized (it), (what) could (you do?)
ina-ti-s	(I) became sick
esoni-ti	(you) hate (the language)
lopx-ti-ni-n	grew mouldy (wheat)

Possibly the same suffix is found in the imperative with first person singular object, *-t* or *-ti-t*. It is a doubtful suffix; no attempt is made to explain it.

26. *-wi, -we*.

inu-wi-me-i	remind (him)!
rus-u-wi-kne	spit
ṭip-wi	(you) shorten (confession)
nansa-we	(he went) to try
pak-a-we	(may they) gather (them)!
lala-wi-s	he threw him

27. *-si*.

xasiwa-si	scratch the boys' heads!
xeksio-si-n	(have you) satisfied (him)?
xima-si-kun	(we) have searched for (them)
mexe-si	(let me) be seeing; look!
paṭi-si	(that which) he has in his hand
nan-mi-si	(I) was listening (to them)
pak-a-si	he seeks (us)
puṭi-si	(I) am blowing (the fire)
uṭa-si-mi-t	guard me!
at-se-i	break it!
xelue-si-tit (xelue-mi-tit)	flay, strip for me!
musi-si	(child) is sucking

This suffix may be cognate with the mandatory *-si* (No. 45) but the resemblance is not evident.

Other possible etymological suffixes are:

rukesma	a doubled cord	rukesma-te	make countless interweavings
xotio	a bag	xotio-(si)-nme	(order to) make a bag
ruk-a	house	ruk-sap-(in)	(they have) made houses
maṭ-er	tobacco	maṭ-uk-(ti) maṭ-ere-gn-in	give (me) tobacco (he) was intoxicated
wi-xi	fish	wi-ni	catch fish
tor-on	amole	tor-ke	bring amole
xasi-om	shame	xasi-mun	be ashamed
xan-an	wife	xan-an-mi-(n)	(was) married
xakua	mussels	xakua-ikus	I went for mussels

### *Morphological Suffixes of Verbs*

The verbal stem is variously modified for considerations of tense, voice, various modal significances, and to some extent for number.

The unmodified stem is used alone for the present tense and with temporal adverbial particles to express the future.

The most frequent temporal suffix is *-n*. This is generally translated by the Spanish preterit, but frequently also by the present. It may have an indefinite or aoristic sense, or denote incompleteness or continuance of action, and is found mainly with intransitive verbs.

#### 28. *-(i)n, indefinite.*

totio-n	(whenever I) err
tio-n	(I) shoot (with my left hand)
ilo-n	(whenever a house) burns
towo-n	(you will be) frozen
ketio-n	(I) argue (with him)
yaṭi-n	(he) follows (you)
xaṭi-n	(I) am dying
xirwi-ni-n	(rain) is ceasing
tursi-ni-n	(he) is cold
terpe-ni-n	(I) have peppered my throat
tempe-ni-n	(soon the river) will dry up
loe-ni-n	(he) nauseated (you)
letse-ni-n	(I) liked (that)
isiwe-n	(when they) rest



29. *-(i)s, past tense.* This is less common than *-n*. It appears to be a more definite past and is found mainly with transitive verbs.

yoreti-s	(he) chased (me)
katia-mi-s	(he) gave (you)
mistu-s	(you) warmed yourself
mexe-npi-s	(I) have seen (them)
wipa-s	(I) invited (you)

30. *-(i)kun, past tense.* This is the less frequent past ending and appears principally with transitive verbs. It is probably the most remote of the past tenses, but as all three of these are regularly translated by the bare Spanish preterit, it is most difficult to delimit their respective spheres. The examples seem to imply completion of action.

uxsini-kun	(you) have increased
uṭ-ui-kun	(I) guarded (it)
uxei-kun	(I) have guarded (it)
oiol-kun	(he) seized (it)
oisio-kun	(it) happened again

The distinction between the categories of intransitive and transitive is not as close as in many Pacific languages, and there is no invariable designating particle for either. Certain suffixes, however, pertain to one or the other type. One of the commonest suffixes in the language is *-ni*, which appears on the whole to be a kind of intransitive suffix.

31. *-ni, intransitive.*

orko-ni-n, (orko-ste)	(we) were frightened
inu-ni-n	(you could not) imagine (me)
in-u-ni-n	(I) awoke
istu-ni-n	(I) dreamt of (you)
(wate-na) xamu-ni-n	(fire) is dying, (is-going dying)
(wate-na) lak-e-ni-n	(sun) is rising, (is-going rising)
eme-ni-n	(I was going) to forget (it)
inx-a-ni-n	(I) am sick, have become sick, (you) are sick
muk-ie-ni-n	(I) am old woman
semo-ni-n	(it wants little time for me) to die
tursi-ni-n	(he) is cold
ṭupu-ni-n	(I) put my finger in my eye
suiu-ni-n (suiu-ste)	it was finished, consumed, used up
ṭisku-ni-n	(did this) break?
xupse-ni-n	(my hair) is fixed and prepared
xasli-ni-n	(be ye not) sad

*ad infinitum*

The nearest approach to a transitive suffix is *-np*, which seems to express action directed toward another person.

32. *-np(e)*, *transitive*.

tiṭi-np-in	he defended (me)
iteo-np-itit	pull me out!
tolso-npe	(I will) break (your feet)
lilui-npe	(we will) amuse (you)
ruima-npe	do not disturb (him)
munsu-npe	(ye have) soiled it
mus-i-np-itit-yuṭ	warm ye me!
mene-npe	(how can I) forget (you?)
mane-np-in	(has he) forgotten (ye?)
ṭupu-np-in	(I) put my finger in (his) eye

Reflexive relations are very frequent and expressed by the suffix:

33. *-pu*, *-p*, *reflexive*.

lixin-pu	I will kill myself
lix-p-in	she killed herself
ita-pu	(do you) wash yourself?
eyes-pu	shave oneself
tc'ai-pu	praise oneself
axa-pu	(have ye not) combed yourselves?
xaṭa-pu-i	hit yourself
tak-e-p-is	(I) measured myself
orko-p-in-se-me	did you frighten yourself?
un-pi-na	(I) am going to cure myself

In many cases *-pu* appears to be used idiomatically, the reflexive function being obscure.

	buy	upu-s-pu	sell
uni	crave, wish	uni-s-pu	consent
inu	awake, remember	inu-s-pu	observe, know, see, feel
nip-a	teach	nip-a-p-in	they will teach (him never)
ritca	speak	ritca-pu	play, entertain

Reciprocal relations are expressed by the suffix:

34. *-mu*, *reciprocal*.

xaṭa-mu	let us fight
lix-mu	we will kill each other
keye-mu	(do not) trample each other
ia-u-mu	play together!
huteu-mu-ṭ	lift each other!

The passive voice is of considerable importance in Mutsun morphology and seems to be preferred to the active as a method of expression whenever possible. It is expressed by the suffix:

35. *-kne, passive voice.*

mexe-kne (me)	(you) will be seen
mira-kne (me)	(you) will be given a gift
mupa-kne (nep-e)	(this) is sucked
ole-kne	(they) are (not) caught
like-kne (me)	(you) will be killed
lokuk-kne (xin)	(the eye) is put out
lala-kn-is (haka)	(he) was thrown down
ut-u-kne (nep-e)	(this) is guarded
liwa-kn-is	(arrow) was hidden
maṭ-ere-kn-in	(he) was intoxicated

Probably cognate with this is the suffix *-ne* with which it is in cases interchangeable. *-ne* often denotes a future passive, at other times its exact use is not clear.

36. *-ne, future passive.*

nansa-si-ne	(when we) try
mexe-si-ne	(you) will be seen
yume-si-ne	(you) will be cheated
xiraste-pu-ne	will (you) be reprimanded?
eise-kte-ne-s	have (you) shaved yourself?

Another suffix with a passive force is *-stap*. This seems to refer entirely to completed passive action, and a great number of the examples noted have a first person singular subject.

37. *-stap, perfect passive.*

ruta-stap	(feathers) recently pulled
pele-stap	(with what) was (this) stuck?
potsie-stap	(I) was censured
katia-stap	they gave rations
ixtei-stap	(he) was bitten by a snake
liki-stap	(I) was killed
xise-stap	(the fat ones) have been selected
mutiku-stap	(I) have been tickled

The modal categories are considerably less extensive than commonly in American languages but rather better developed than in Indo-European.

The imperative is expressed by suffixes varying for number and person of subject and object. Thus:

<i>Imperative</i>	<i>1st pers. obj.</i>	<i>Intransitive or 3d pers. obj.</i>
2d pers. sing. subj.	38. -t, -tit	39. -i
2d pers. plu. subj.	40. -tyuṭ, -tityuṭ	41. -(i)yuṭ
xima-t		seek me!
ima-t		show me (it)!
oltemi-tit		give me pinole!
ip-e-i		turn around!
oio-i		seize it!
xima-i		seek him!
ok-wo-i		send them!
ot-emi-tit-yuṭ		give me pinole!
sumua-ti-yuṭ		give me wood!
oṭo-yuṭ		go for atole!
oteiko-yuṭ		be quiet!
laisaisi-yuṭ		sing slowly!
at-e-ti-yuṭ		give him!
ara-ti-yuṭ		give him!
huteu-m-uṭ		lift each other!

Another suffix with an imperative force is *-is*. This implies going to some other place to accomplish the command and may be termed the

42. *-is, missionary imperative.*

monse-is	go and tell (them)!
sak-a-is	go and bring (pinole)!
ṭaska-is	go and walk (in the field)!
etue-is	go and release (it)!
oi-is	go and get (it)!
xi-is	go for fire!

There appear to be some terminations having the effect of a subjunctive. These are:

43. *-tkun, subjunctive, hypothetical.*

ara-tkun	(you) should give (him)
kati-tkun	thus should (I dress)
ko-tkun	(you) should tell (me)
ko--tkun, kwo--tkun	
on-o-tkun	(he) would have made sport (of you), speaking (of you) after death
oi-tkun	(I) would get (it if I wanted it)

44. *-kane, conditional.*

ole-ti-kane	if I could only catch them!
toko-kti-kane	if the bed is of . . . .
tax-kane	when it is asked
ak-niu-kane	when he is thirsty

There may be some relation to the passive particle *kne*.

Iterative or frequentative relations are expressed by the suffix or infix *-s*, placed between the stem and the characteristic vowel.

45. *-s, iterative.*

ak-u	enter	aksu	many enter
ele-pu	go	else-pu	many go
epe	pass	epse	many pass
semo(n)	die	semso(n)	many die

De la Cuesta pays considerable attention to this suffix in his grammar, suggesting that it is frequent with every verbal stem. Strangely, very few unquestionable examples of it are found in the phrase-book.

Probably the same morphological element is that found in many cases following the characteristic vowel, particularly before the reflexive *-pu*, denoting in that case plural or iterative reflexive. It is also commonly found in words denoting occupations, i.e., one who performs an act continually. Compare the nouns denoting personal categories in Part II.

amae-s-pu	(do not) amuse yourselves
roroi-s-pu	(do not) disport yourselves like boys
siole-s-p-is	(we) were talking among ourselves
xewe-s-pu	(we) both look together into the mirror

Other usages are more idiomatic and less evident.

ritca-is-pu	recount, converse (ritcapu, play)
upu-s-pu	sell (upu, buy)
siole-s-pu	(they) are solitary and sad
mexe-s-pu	(like as he) looked

The mandatory or causative relation is expressed by the suffix:

46. *-si, (-se), mandative.*

xotio-si-nme	you have ordered that they make a bag
mana-si-s	(you) commanded to extinguish it
aṣa-si-s	(you) commanded (me) to steal
pina-se-s	did (I) order this?

Three relations implying motion are of importance in Mutsun. The first, *-na*, denotes motion to a distant place or outdoors.

19. *-na, purposive motion hence.*

lixni-na	(he) is going to kill (it)
xiisi-na	(I) am going to catch (them)
paitsa-na	(let us) go and catch (them)
wate-na (lak.e-nin)	(sun) is rising; (going-rising)
wate-na (weter-e-nin)	(it) is increasing; (going-increasing)
ereksi-na-ka	I am going to bathe

The second, *-su*, denotes motion to a nearby place or indoors.

47. *-su, purposive motion hence.*

nam-isi-su	(I) am going to hear (them)
ertse-su	(I) am going to supper
were-su	(I) am going to catch rabbits nearby
etste-su	(I) am going to sleep

The third, *-inyi*, denotes motion hither.

48. *-inyi, (-im), purposive motion hither.*

liw-inyi	(I) come to kill (you)
monse-im	(I) come to advise (you)
nesep-inyi	(we) come to beg permission
pasip-inyi	(I) come to salute (you)
warep-inyi	(I) come to visit (you)

A very rare and doubtful suffix, *-knit* (misspelled in the grammar as *guit*, or *wit*), has been termed "prohibitional."<sup>8</sup> This may be the passive *kne* plus the future adverb *et*; i.e., "you must not be struck."

49. *-knit, prohibitive.*

tamta-knit, xaṭa-knit	he must not strike you
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A second very obscure suffix, *-ksi*, is translated by De la Cuesta "perfectly well," *perfectamente bien*, and is termed by Kroeber "excellentive."<sup>7</sup>

50. *-ksi, excellentive.*

xeksio-kai	(let me) satisfy (him)
ruisiu-kai	do not (ye) tremble
ruisu-kai	(your hand) trembles
nipa-kai	(we) are teaching (him)
rinsi-kai	(they) take the lower (key)
siaksu-kai-t	(speak) to me softly (in my ear)
xaune-kai	(would that) someone would bring (water)
siiru-kai-ste	(it) is pulverized
polso-kai	(what is this) painted?

<sup>8</sup> The Chumash and Costanoan Languages, *op. cit.*, p. 253.

The verbal suffix *-mi* (cf. nominal suffix *-mi*) seems to denote an indirect personal object or an action done for the benefit of a person. It is most frequently found with the imperative and first person object, "do this for me."

20. *-mi, -me, beneficial.*

katia(stap)	gave (food)	katia-mi(s)	gave (clothes to thee)
xelu(ksi)	strip off bark	xelue-mi(tit)	strip bark (for me)!
monse(t)	advise (me)	monse-mi(tit)	advise (me)!
monsie	relate	monsie-mi(tit)	recount (me)!
		monsie-me	relate to you
riri	put selvage on	riri-mi(tit)	put selvage on (for me)!
iisi	owe	iisi-me	(you) owe (me), (I-you)
musi-si	suck	musi-mi	suckle, give suck
tika	chew	tika-mi(t)	chew (for me)!
etc.			

Two suffixes of the greatest frequency are evidently cognate. These are *-kte* and *-ste*. The former is listed by De la Cuesta merely as a preterit tense suffix, the latter, though of frequent occurrence, not mentioned at all, though a suffix *-miste*, probably a hortatory, is described.

Both seem to have the sense of a past participle, and, like the latter, are frequently used adjectively. They express completed action or achieved condition. Though little difference is discernable between the two, it would appear that *-kte* is used principally for transitive relations, *-ste* for intransitive ones. They are frequently translated by the Spanish *ya*, "already."

51. *-kte, (-xte?), perfect transitive (participle), adjectival.*

mit-ci-kte	(bow) is unstrung
eako-kte	(it is) torn, impure
riṭe-kte	(it) is decorated with beads
laki-kte	(it) is lifted, hung
tolo-kte	(they) have donned their regalia
lip.a-kte, lixwa-kte	it is hidden
liisu-kte	toothless
posio-kte	hairless
riski-kte	pug-(nosed)
sitl-u-kte	small
niotsio-kte	short
husiero-kte	big (mouth)
nutiri-kte	big-nosed

52. *-ste, perfect intransitive (participle), adjectival.*

xiwa-ste	(they) have (not) arrived
semso-ste	(they) have died
toilo-ste	(they) are seated
pelke-ste	he was displeased (at me)
xuten-ste	(he) has eyes
kome-ste	(I) am tired already
wane-ste	(I) am satiated
siksa-ste, mikna-ste	it is soiled
sesuk-ste, sumu-ste	(it) has decayed
unxu-ste, (unxu-amin)	snotty
natka-ste	black
rinta-ste	lean
noiro-ste	large (feet)

*ad infinitum*

The interrogative is expressed by the suffixation of the enclitic *-s, -se*. This may be suffixed to other words than the verb, more commonly to the initial word of the phrase. Thus:

53. *-s, -se, interrogative.*

kan-se	is this my . . . ?
kai-s	it is painful?
ekwe-s	did not . . . ?
lalka-na-s	did (you) go for geese?
men-se	did you . . . ?

*-s* regularly follows a vowel, *-se* a consonant, thus avoiding terminal consonantal complexes.

The negative is formed by the independent particle *ekwe*. *epsie* is sometimes used with negative imperatives, but the more common method in this case is the use of the bare pronoun *men*.

Some of the isolated and unexplained suffixes, indicated by italics, are:

siru- <i>mpi</i> , siru- <i>mpe</i> (siru-ksi-ste)	grind (salt); (ground)
man-ti- <i>kte</i> ; man-toi- <i>ste</i> (man- <i>sa</i> , man- <i>as</i> )	it went out; is going out (put it out!)
yoko- <i>rte</i>	(cigar) has become ash
menso- <i>rte</i>	(they) have drowned
mup-il-u- <i>rte</i>	(boy) keeps his mouth closed
ainwe- <i>iam</i>	(you said you) went to see (him)
paka- <i>inini-s</i>	(he wanted) to find (us)
ole- <i>moapo</i>	(he) can (run) well
ton- <i>se-s</i>	(I) met (him)
ton- <i>enp-is</i>	(I) lost (this)
tiaku- <i>kse-i</i>	split it!



<i>kil-e, kil-ile, kil-pulme, kil-ite</i>	sparkle
<i>kipi-ni-pu-i</i>	wink (your eyes)
<i>kai-nawin</i>	narrow, difficult
<i>kute-kets-i</i>	very well tied, very strongly bound
<i>satar-a, satar-e, satar-pu</i>	open the mouth
<i>tcite-sin-i</i>	dance for me!
<i>sam-ursi</i>	(they all) have long hair
<i>sam-aipu; sam-ianto</i>	(I), (they all) cut their front hair
<i>xute-punk</i>	fire is made
<i>xit-kin</i>	(I will not) cleanse myself
<i>nansi-ke</i>	(you will soon) be known
<i>xeksaio-ie-i</i>	satisfy (him)!
<i>xase-sen</i>	(teach me before I) get angry!
<i>xat-xasti; xat-zatsi</i>	it is well swept; very clean
<i>nip-a-pin</i>	(they will never) teach him
<i>lop-kti-nin, lop-xe-ste</i>	(wheat) moulded
<i>ipi-re-i (ip-e-i)</i>	turn (this)! (turn around!)
<i>ina-ti-s; ina-k-pu</i>	(I) became sick; (will you not) be- come sick?
<i>we-solo-kte, we-yero-kmin,</i>	large, great
<i>we-sare-kte</i>	
<i>we-tan; we-tere-npe-i</i>	is great; increase it for me!
<i>yer-oepin</i>	(he is) growing old
<i>matala-mu-i; matalu-ni-stap;</i>	place face downward; (I) was placed;
<i>matula-ni</i>	(wait for him) to place himself
<i>mene-npo</i>	(I will not) forget
<i>mir-ma-mi-t</i>	give me that which you were given!
<i>mup-i-pu-i; mup-e-i;</i>	shut his mouth! shut his mouth with
<i>mup-ilu-rie;</i>	your hand! (he) keeps his mouth
<i>mup-us-pu-i; mup-tu</i>	shut; shut your mouth!
<i>mai-xi-ni-ste</i>	(they) laugh at (your speech)
<i>teorok-punk</i>	we become sad (when . . .)
<i>ii-ps-is; ii-si-me</i>	(I) owed; (I do not) owe (you any- thing)
<i>ak-eni-ni-n; ak-niu-kane</i>	(I) am thirsty; (when) one is thirsty
<i>ekwe-na</i>	(I) have no ( . . . )
<i>uni-spu, uni-spate, umi-spak</i>	(he wished) to agree
<i>ole-ri</i>	(you) can (not)
<i>inu-wi-me-i</i>	remind (him)!
<i>itma-ni-t; itma-nu-i</i>	lift me! lift him!
<i>it-wime</i>	(we have) corrected them
<i>inu-i-ni-n</i>	(I) am tired of journeying
<i>rui-su-kai; rui-siu-kai;</i>	(your hand) trembles; (do not ye)
<i>rui-sin-kai; rui-ma-np-in;</i>	shudder; (who) trembles? he
<i>rui-nga-t; rui-ki-np-in</i>	moved him; move me! I moved
<i>umsu-mi-n</i>	(they) flew
<i>wax-tci-i</i>	scratch (him)!
<i>ele-mau-pu</i>	(you) will arise (early)
<i>et-oe</i>	(he) slept (little)

## ADJECTIVES

Adjectives display close relations with both verbs and nouns. A few of them appear to be definite adjectival stems without terminations, a small number seem to be derived from nouns, but by far the greater number are akin to verbal stems. As allied to nouns they may take the pluralizing suffix and stand as substantives, as *weyero-mak*, "the big ones." As allied to verbs they commonly take the verbal perfect suffixes *-kte* and *-ste* and may be interpreted either as verbs or as adjectives, e.g., "the cloth has been soiled," "the cloth is soiled," or "soiled cloth."

In addition to the verbo-adjectival endings *-kte* and *-ste* there are two others, evidently cognate, used solely with adjectives. These are *-kmin* and *-smin*. The distinction between them is not evident, as, for instance, both *nutka-kmin* and *humulu-smin* mean "black" (sing.) and *natka-mak* and *natka-ste* "black" (plu.). Other suffixes likewise seem to be interchangeable under certain circumstances, as both *orko-ni-n* and *orko-ste* mean "he was frightened;" *unxu-smin* and *unxu-ste* both mean "snotty." *-kmin* is probably cognate to *-kne* and *-smin* to *-ste*.

54. *-kmin, adjectival.*

<i>patka-kmin</i>	heavy, deep white
<i>pelo-kmin</i>	bald
<i>nutka-kmin</i>	black
<i>hihul-i-kmin</i>	something cut, as a pole
<i>isiwa-kmin</i>	newborn
<i>kuti-kmin</i>	very small
<i>kipinyi-kmin</i>	a winker
<i>kits-u-kmin</i>	twisted

55. *-smin, adjectival.*

<i>selpe-smin</i>	(are you) intoxicated?
<i>xop-tie-smin</i>	climber
<i>an-e-smin</i>	turtles
<i>ritca-smin</i>	liberal, generous
<i>waksa-smin</i>	miserable, vile
<i>ritcua-smin</i>	silly, foolish
<i>rauṭa-smin</i>	with large back of neck and occiput
<i>samili-smin</i>	putrified
<i>humulu-smin</i>	black
<i>unxu-smin</i>	snotty
<i>pelso-smin</i>	large-tongued, garrulous
<i>paissa-smin</i>	runner
<i>xase-smin</i>	brave, fierce

*ad infinitum*

An infix *-ti-* is occasionally found before adjectival endings. It is placed between the simple stem and the characteristic vowel. Its import is not clear but it seems to imply an adjectival-agentive sense.

56. *-ti-, adjectival-agentive.*

xop-e	climb	xop-ti-e (smin)	climber
teala	urinate	teal-ti-a (smin)	urinator
muxe	suspect,	mux-ti-e (ste)	one who makes
	misconstrue		wrong judgments
wilo	signal "yes"	wil-ti-o (n.in)	one who signals
	with the eyes		"yes" with the eyes

Another etymological element giving an adjectival significance is:

57. *-se, -si, adjectival.*

in-se	tear-ful
yer-se	torn
polpol-si	dotted

### PARTICLES

Particles are independent and invariable. They range from monosyllabic to polysyllabic, the longer ones being probably compounded. For purposes of reference they are divided into locative adverbs, temporal adverbs, descriptive adverbs, and interjections.

Two enclitics are met. The first is a conjunctive, *-hiha* or *-hia*, "and, also, as well."

kas-hiha	me also
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The second is an adjectival pronoun, *-sia*, "alone, only, solely."

men-sia	you alone
wak-sia	he alone

## PART II. CLASSIFIED LIST OF STEMS

The following lists are arranged in the order of the phonetic alphabet. First the vowels, *a, e, i, o, u*, then the semi-vowels *w* and *y*, the nasals *m* and *n*, the liquid *l* and the trill *r*, the spirants *s, x*, and *h*, the surd stops *p, t, ʈ*, and *k*, and the affricative *tc*.

## NOUNS

*Animals*

aiaraʈ	magpie
auni-smin, anni-smin	turtles
are	bird like a heron
asurian, asit	sparrow
aʈaʈ	magpie
akaʈ	conch
elei-min	goshawk
ex, hex	squirrel
eksen	quail
intkx	large hare
ipiwa	(rattle) snake
omkon	maggot
ores	bear
oʈol, oʈon	red ant
okom	bird
uminx	wolf
unteu-smin	black beetle
uraka	salmon
wawisacs, -ses, -soes, wakisacs	coyote
wal-en	owl
wasaka	eagle
wakaraʈ-smin	frog
weren	rabbit
wilo-pan	blackbird
wireskan	bat
wixi	fish
wipseur	flea
yurah	black duck
maian	coyote
marite	young deer
mitis	little moulting bird (jestingly)
mumul-al-uk	butterfly
mumuri	fly
muniek, musiek	small bird with black feet

niwes	faun
notot	blackbird with yellow head
lalak	geese
lesokwa	earthworms
lisana	snake
l-uopo	yearling calves
lukluk	geese
rames	weasel
rax	white louse
rinya	rat
risui	young coyote
rumai	young hare
saiae	jays
sanraruk	large geese
sakar	nits
siol-ekon	mole like a dormouse
siuyuts	sea-otter
siul-il-uk	butterfly
sisin	small bird
siṭikna, siṭcikna,	young squirrel
sikikna	
sikot	mole
soksokian	bird like sensonte
swesusu	large ducks
xakua, (xaakan)	mussel
xun-un	small dove
hutee(kinis)	dog
paratu	woodpecker
penie, penik	cat
perisiana	young quails
pil-okian	martin
pitcina	maggot, insect
polokis	grasshoppers
polten	young rabbit
por	flea
poskoi-min	black ant
poṭol	blackbird with yellow head
pukwie, pukwi	young deer, young fallow-deer
pukului-min	toad
tamala	leopard (puma?)
tatci	a small animal
tiwiem	fallow-deer
tiwituk	bird
tira-smin	spider
tixsin	skunk
tipih-smin	earthworm
tominis	seal
toroma	wild-cat
torpaes, torsiepa	gray blackbird

toṭe	deer, cattle, meat
ṭayankal	blackbird
ṭaiaskal	blackbird with watery eyes
ṭiwak	bird
ṭime	whale
ṭuilun	vulture
kaul-epat	bird with large mouth
karai	black louse
kakari	raven
kaknu	hawk
koṭewes	snakes
kulian	blackbird
teaxi	hawk
tceies	hare
teil-iskan	hawk
teirit-min	bird
teorena, teolteolua	cricket
teurutu	woodpecker

*Botanical*

aisaae, inkis-e	acorns
ama-knis	seeds
anii	a white tree
arwe	oak
ahamen	bundle of fire-wood
enena	blackberries
it-ux	a seed
owos	seed, fruit
ortor-kmin	hay
uwena	very pink flower
uner	wild onion
upitṭ	acorn shell
wara	an herb
yarkas	an herb
yukis	acorn
momox	a small, salty seed
morotṭ	acorn shell
muren	an edible herb
lumuiimin	an herb
ransona	an herb
rapak	oak
repiṭ	acorn shell
reṭeṭi	blackberry bramble
riris	vine
ripin	oak
rore	an herb
ruskes	an herb
sawana	a thicket
sasuk	moss

sapa	herb with a dark, hard seed
sak	small pinenut
siutotok wetemak	poisonous plant
sirak	filberts, hazelnuts
sipuruna	a white root
somon	hole in a tree
sokoṭe	laurel
sokotci	fruit of laurel
sumna, sumua	sticks of wood
xale	green tule
xireni, (xirena, xiremi)	large pine-nut
xipur	a tree
xit-iani	tuna
xitna, xitia	elderberries
xikoṭ	pine
xolopis	shell, chaff of acorn
xop	larch, a red tree
xumes	hay
xumi-smin	wild rice
xur	seed
patax	willow
pat-i	chia
paṭ	tuno
pakir	plant like tule
piṭ-ui	seeds
porpor	cottonwood
porpor onien	tree like white cottonwood
pururis	small fruit
tamet	a dark edible root
tarax	small, white willow
tapur	tree, wood
tiwis	flowers
toinon	a small fruit
tuxe	oak
ṭapis	reeds, straw
ṭaki	fruit tree
ṭoṭolua	plantain
kamer	sweet herb
kamun	tuno
ketax	leaves
kiriṭ-smin, kiriṭ-skin	an herb
teasuni	hay
teatia	a well-known tree, testicles of hog
teisnan	alder

*Body Parts*

awis	left hand
eyes	beard
in	tears

isu, is-u	hand
ihatn	ear-cavity
iteie, itcik	pudenda
oloť	back of neck
oteo, oťe	ear
oťs-io-n	bullet wound
una	bangs, hair on forehead
unux	mucus from nose
uri	hair
us	nostrils
watex	stomach
wel-ewel(min)	point of the lips
wima, wimak	wing
wilopa	the red head of the blackbird
yisuwani-nsa	corns
yutxa	tumor on neck
marax	skin
maxul	spittle, phlegm
mak-us	knees
mitla	thigh
moxel	head
moxoť	skull
mus	bosom, breasts
mutis	front teeth
muktiokris, (muxtioxris)	ankle
noso-n	breath, spirit, soul
las-e	tongue
lasin	finger-joints
lit-akwa	veins
lom	brain
lopohs, lop-oťs	navel
lup-us	anus
raras	molar teeth
riťok	intestines
rikex pilin	prepuce of penis
romos, ruteu	pimples, wart
rumes	spine, backbone
rus	saliva
sama	right hand
sanán	groin
sarka	blind eye
sapa-xin	pupil of eye
sinpur	eyebrows
sire	heart, mind
sip-os	feathers
sit	teeth
sik-en	wind broken, flatus
somsom	armpits
sok-o-s	testicles



soko-rena, sioko-rena	scrotum
sute	pudenda
xai	mouth
xahie	voice
xat-a	palm and sole
xakana	tail (of snake)
xalien	skin
xeser	birth-mark, scar
xin	eye
xorko-s	throat
xop-o	back, upper part of back
xumuṭ	skull
xunyois	arm
xurek	ligament
xupur	carbuncle
xutu, xut-u	belly, abdomen
paine-n	menstruation
pat-ian	blood
pakar	rash
pak-a	shoulder-blade
potcor	scalp sores
pusi, piliu, pat-os, patsa, pelsi	pudenda
put-u-s	belly, abdomen
put-us	thumb
tankar	roof of mouth
tap-is	crown of head
tak-e	ribs
takutṣpis	shin-bone
tima	forehead
tiras	buttocks
tolso, toolos	knees
toṭe	flesh, meat
tokol	syphilitic sores
turis	nails
turtunin	throat, neck
tuksus	ears
tup-ui, tupui	tail
tutper	lips
tukai	chest bosom
tukmur	Adam's apple
ṭamus	cheeks, face
ṭap	hide
ṭat-i	bone
ṭurum	skin
karkas	molar teeth
kapis	little finger
katak, katecak, kaṭak	nape of the neck, occiput
kateitci	pudenda

koro	foot
(kukas), xukas	anus, buttocks
teapal	kidneys
teiri	horn
te-oxo	pudenda
teukuri	evacuations

### *Manufactures, Instruments*

an-ipu	pillow
aren	knot
axe-s	comb
ata-s-pis-mak	watch-towers
at-e	acorn-bread
ašin	feminine ornament
akať	ornament of conch shell
eyes-pis	napkin
ene-msa	blotter, eraser
ene-kmin, enko-kmin	writing, letter
ereťs	<i>real</i> , a piece of money
esxen	dress, clothes
et-cer	iron
eťs	bed
eksen	nest
iiot	sacred stick, fetish?
imini	pinole
iru-kmin	arrow-point
isme-sis	clock, watch
itok-pis	table-cloth, napkin
oxoť	basket with handle
ot-eme	pinole
unupi-msa, un-opi-msa	handkerchief
ulis	basket
urkan	mortar
usek	whistle, flute
utis	arrow-point (arrow-shaft)
uťel	ear-ornament of feathers
uteir-min	small needle
walexin	small basket
ware	feather ornament
warsan	small basket
weteok	small basket
yaťan, lasun	net
yoxo	load of meat
mas	beads
maťer, maťer	tobacco
lawan	bow
rires	arrow-cord, spear-cord
ritai	rabbit-skin clothes

riŋeni	feminine ornament
riŋs	coarse pinole
rote-maa	portfolio
ruris	bow-string
ruxe	arrows, spears
ruk	cord
ruk-esma	doubled cord
ruka	house
sak-in	broom
setne	bread of acorns and <i>momgo</i>
sianexan	skirt of tule or plants
siotok	basket for holding water
siwen	basket with a pyramid in the bottom
simirin	seed-gatherer
sinpie, sinpia	handkerchief
sipirek	bone awl
sipuksan	large comb, brush comb
soxoi	ornament of beads and feathers
sokwe	atole
supik	small cloth
sutia	poker, digging-stick
xasa-pis	opening of pocket
xats-ian, xas-ian	ornament of conch-shell
xel-emok, xel-emon	cloth, rag
xitea-mis, xitsia, xiteha-mis	toy
xotio	bag
xotox	shoes
xurpu	beads, feather ornament
homoron	potsherd
humeren	bar
humiri-maa	baptismal font
palsi-n	muller of metate
parsex	belt, sash
pakuŋs-mis	ball for game
pelo-maes	comb of straw
piroi	net
puxuŋ, pupuŋ, puyuŋ	bread
tio-x, tio-s	spear, arrow without point
tiwix, tiwi	beads, feather ornament
tilai	basket with a good base
tirtisen	belt, sash
tipain	small basket for amole
tor-on	amole
toko, tok-o	bed
tuyuwa	broom
tupen	sweathouse
ŋainwen, ŋaiuwen	bread of acorns and <i>momgo</i>
ŋalis	wooden awl

temox	arrow with point
tip-e	knife
kitirox, kitinox, kitirxo	skirt
kit-cas, kiteas	key
kurka, kurea	pinole
teakar, tcawar	seat, chair
tcakini	stringless bow
teiles	bell
teopoma	fret, bric-a-brac
teokon	sacred stick, fetish?

### Natural Phenomena

awar	north ( <i>dēdo de carazon</i> )
am-ani	rain
at-ar, atar	mud, mire
ak-e	day
ak-es, awes	salt
inu	road, trail
irek	stone
isin, isiin	hole (of animal)
isme-n	sun
ixutun	drop
urani	hole
upak	lump, clod, white paint
wakani	dew?
wakis	river, torrent
wixax	light?
wika	afternoon
yopok	hail
yokon	cinders, ashes
yumus isir	dirt on hands
mun	earth, dirt
mun-s	dirt, filth
murtei, murteis, murtosis	night
murten	night
notson	food
laṭun	drop
raxopa	rays of sun
rokie, rokse	powder, dust
rutis	open hole, cavity
si	water
soton	fire
suw, sus	charcoal
skoxe	drop
xewe-pis	shadow, reflection
xiṭus	wind
xutepa	conflagration, great fire
pelek	fine dust, atoms

pire	world, atmosphere, weather, etc.
pitak	lint, dust
pitil-an	mole-track
pusninyis	whirlwind
tamar	hill
titin	seashore
taska, tatska	plain
tura	thunder
tura	day
kau	seashore
kar, kat	smoke
koloi	spring of water
kure	red paint
kutui	hole in ground
tearak	sky
tearko	light
teape	hole in ground
teopolotesi	place full of holes
teok	clod, lump of mud

*Words of More Abstract Significance*

ak	thirst
ečina puatis	a game
eť-se	sleep
ekets, ekests, ekaest	sins
iwe, ik.e	a method of making fun of a person
impe-s	sign
isut-s.e	dreams
on-o	a method of making fun of a person
oroe-s	hunger
oteiko	silence
us-ix	sadness
mai-t	smile
morke	a method of making fun of a person
muisin, yenko	love
layaya	length, height
laxi	game of revolving until dizzy
lat-laya	great height
rakať	child's game
ritca-se	language, speech
samili	putrid matter
sat.e	a method of making fun of a person
senena	sting of an insect
siamalpi-msa	confession

suwene	song
sunk, sune	hunger
xamapu	proof
xas	anger
xasi-om, xasi-un	shame
xenkotst-s-e	silence
xuṭi	game
peya	lightness
peleṭa	children's game
taula-si	something held in the arms
tursi	cold
ṭala	heat
ṭis, ṭihs	life
ṭuma	scent, pleasant odor
kai-s	pain, misery, sorrow
kapala-si	an embrace
kapnen	Wednesday
koteopo	a method of making fun of a person
krak-at, (xrak-atʔ)	name
teakir	odor
teopopiswai	Friday
teukuri	bodily evacuations, movements

*Terms of Relationship and Personal Categories*

ana	mother
ana-knis	stepmother
ap-a	father
apapeṭ	nephew, grandson
aṭia, atsia-knis, atcai-nis	girl
atsiai-kma	girls
aṭ maku-kmin	widow
ete, et-e	maternal grandfather or uncle
inis	son (father speaking of son)
inxoksima, yuxoksima	adult men, elderly men
inṭiṣṭe-mak	elderly men
isiwa-kmin	newly born child
ixatute	godmother
iṭxine	man (address term)
urxee-mak	bride and groom
uxi.	mother-in-law
uṭa	parents
mak-u, makas	husband
mene	maternal grandmother
meres, moeres	nephew, grandson
mirṭe-mak, mitṭe-mak	adult men, elderly men
mos	son (father speaking to son)
mukene	man

mukur-ma	women
mukniue-sima, mukienin	elderly women
sini, sinyi, sin-kma	boy, youth, boys
sit-nun	child, (foetus), baby (mother speaking)
sit-sus	stepchild (mother speaking)
xan-a, (xau-nan)	wife
paiten-kte	man, person, cultured person
parane	grandmother
papa	mother's grandfather (maternal grandfather?)
taure, tauro	child (mother speaking)
ta, taha	elder sister
taka, tak-a	elder brother
tances, (tauses)	younger brother or sister, elder brother
tare	younger brother or sister
tefo-min	sister-in-law
tares, tcares	men
tuta	young man
ka	daughter (father speaking)
teire	paternal grandmother
teorsi	maiden
an-pi-s	cook, toaster, roaster
ali-s	competitor
iwo-pan	liar, cheat, bully
ika-s-mak	millers
onei-a	companion
onei-kma-s-e	neighbors
un-e-mu	friend
ura-s-mak	hole-diggers
uhini-s-mak	fishers
uten-mak	wizards, witches
waixi-s-pan	angry donor, unwilling giver
wayas-mu	enemy
werxo-s-mak	deer-hunters
yawisun	Tulareños
lisieni-s	walkers
rite-pan	toreador
sirka-s-mak	nut-hunters
xawa-pis-mak	callers, shouters
xixon, koxoeni-s	meat-carrier
humala	countrymen
teye-s	cook, roaster, toaster
tikiro-mak	kneelers, those on knees
koteino-knis, -kma	servant, boys
teite-s-mak	dancers

*Numerals*

emeṭṭea, emeṭka, hemeṭṭea,	one
hemetca, emestca	
emeṭṣpu	once
emeṭotca	the one
uṭxin, uṣxin	two
uṭṣina	twice
uaxinya	they both
kapxan	three
usit, uṭit	four
parues, parnes	five
nakitei	six
ṭakitei	seven
taitimín	eight
watsu, pak.i	nine
tanat, tansa-kte, matsu	ten

## PRONOUNS

ka	I (subjective)
kan	I (subjective), my (possessive)
kan-is, kanis,	me (objective)
kas, (kak), (kar)	
kat	I (subjective with future particle)
kames	I . . . . you
kanmes	you—my
me	thou (subjective)
men	thou (subjective), thy (possessive)
mes	thee (objective)
met	thou (subjective with future particle)
waka, haka	he (subjective)
wak, hak	he (subjective), his (possessive)
haks, hakas	him (objective)
makse	we (subjective), our (possessive), us (objective)
mak	our (possessive), we (subjective)
mak-e, marke	we (subjective) (dual?)
mak-et, makset	we (subjective with future particle)
makam, ma-m	you (subjective), your (possessive)
makams	you (objective)
aisa, ai	they (subjective), their (possessive)
aisan, aiske	them (objective)
nuk	it (neuter objective), him (objective)



*Demonstratives*

ne, nep-e	this (close)
nepean	these
nane, nina, nemis, nenis, unta, ister, nep-er	this
nisia	this (farther)
nunis, nunisia, nup-i	that
nupean	those
numan	which, that which (relative)
pina	this (more distant)

*Adjectival Pronouns*

aipire	some
aimukte, aixames	all, exclusively
aman	so many
ams-e	the other
ani, anyi	another
at-ia	only, alone
exil-iste	alone
imin, imiu, imi-u	all (personal)
iruk	all
wasi(a)	much
yasir	much, very
niat, nihia, nuia, nua	only, no more
l-el-uert̥e	too much
hisha	any
siok, siokwe, siwene	himself, itself
pisnie	nothing
tolon	much
teyo	much
ke-se, kes-e	much

*Interrogative Pronouns*

an. . .	where?
anpi, ampi	which?
at-e	who? whom? (singular)
at-ekin, at-ekinta	who? whom? (plural)
in-at, inuat	when?
inxam, inxan	how many?
int̥is, (im̥tis)	what? why? where?
inka	what? (do)
inkai	what? (say)
ista	what? (thing), why?

## VERBS

\* The stems preceded by the asterisk are those occurring only once or twice and which therefore are more or less doubtful.

## A

aiw, ainwe, aiuwe, axuwe,	see
aixu, aipu, arxuwe	
*aisa-e, inkis-e	desire, crave
*aixuwes	withdraw, depart
*auye	awake, awaken
ayi	come
*ayimi-ni	lose, stop
am	be (substantive)
*am(a)	speak truth
ama	eat
*ama-ni	appear
ameis, amaes	play
ami, ami-si	give, bring, hold, carry, preserve
amiu(m), amoi	teach
amne-ni, am-a-ni	rain, wet
amsa	endanger, injure
ana	pardon
*ana	desire to, long to
*ana-pu	be injured
*anure	bend, bulge backward
*ansam	paint
*ansemi	keep watch, be vigilant
*ale, luwi	break and leave place
ara, arsa	give
*arespi	quarrel, fight (between women)
*ars-e	observe, conceal
*arke-n	increase, grow
*arki-ni	take the road
*asa	part the hair
*asi-n	flow in (water)
asinu-n, as-nu	sneeze
*asiknene	hate
aski, askin, askun	cut
axa	comb
axe-niak-e-n	flee
*axi, arimi	give again
*axtu-n	break a tooth
*apere	chase flies with a branch
at	break, split
ata	examine
*at-e	insult, grumble, quarrel
*at-ia	cease talking, be silent
atue	view, watch

*at-uemi	correct, put right
*at-mu	quarrel, fight (boys)
*at(ki)	seize
at	steal, cheat
*aşa	congeal
*aşa	mend, fix
*aşki	crack, split (earth)
ak-a	leave, depart
*akan	leave, permit
*ak-ara	look up
*ake, ak-e	rise, jump, get up
ak-u	enter
at-eun	make, finish

## E

eies, eis-e	shave
eme, emse, enen	forget
*eme-ni	wait, detain
emre-n, hemren	be envious
ene	write, paint
eno	stay, remain
*enusi	signal with the finger
ele, else	raise, lift, arise
*elie	goad, spur, hurry
*eracs	praise one's self
*ere	bathe
*erenmite	finish, end, complete
ertse, ertste	eat supper
*ese	dress
*esier	say
eson, esonni	hate
*exenmi	leave, depart
epe, epse	pass by
*etueis	disentangle, extricate, free
eşe-n	sleep

## I

*iweke, inke	gather plants
*iwini	do
iwo	dispute, quarrel
ima	show
ime	join
*imu	arise
*in	do
ina, inxa-n (una)	sicken
ina-n, insa-n	fall
inanme	rain

inu	observe, feel, conjecture, remember, recall
insu	know
*inkai	speak, talk, say
*inke-ni	seize, grasp
ilo	burn
iluwi, ilpi, ili	put on sash or cloth
ilsi-mi	give meat
*ilkun	lift skirts
irko	defecate
isento, is-inte	walk carefully, watchfully
*isi	await
isia	be hungry
isiwa, isiwi	give birth, be born
isiwe, isuwe	rest
isi-m, ispan, iisi-me, iipai	owe
isu	play at hand game
*isnu, isu	follow, imitate
istu, isut	dream
iskani, itškani	pay
*iske-ni, xiške-ni	hiccup
ixime	tremble
*ixironi	sprinkle
*ixiras	kick
*ixisa	walk in mud
*ixuk.a	shout, cry
ixwi, iuie	go, walk (many)
*ixtci	sting, be stung by (snake)
ipili, ipile	lie down, lay down
ipire, ip-e	turn around
*it-iu	get the better of one
itok	cleanse, purify
itma	lift, raise
iša, išu	wash
*itanai	arise
iše, išu	spur, incite, urge
iše	disparage
*iti-ni	bruise, mangle hand
išo, it-co	leave, depart
*itui	spread (acorns in the sun)
*itso, išu, itšku	doubt
*iteile	be ashamed
itco-ni	come out
O	
oio, (oit), oiiis	seize, take, bring
*oiwi	tie, clasp, bind
*ouso	order, instruct
*owe	return a favor, give the thing
	dreamt

*one	sit down, seat
*oneia	accompany
*on-ome	hunt deer
*onsie	ask, inquire
ole	can, be able, gain
olo	become blind
*ol-ue	signal
*olhs-e	kill many
olte-mi	give
orso-n	belch
orko	frighten
*osehe	speak, reply also
*oswe	scatter manure
*opiweis	discover, bring out
ot-o	mend, fix
*ot-o(po)	dirty, render filthy
ot-mo	pillar
*oto	regain
ots-io	wound
otspe-n	have a pain in the penis
ok, oke, ok-o	send
*ok-e	confess, be exposed
*oteenuix	discharge, dismiss
oteiko	de deaf, be quiet
*oteiko	desire, have desire, covet

## U

*uwin	kill someone
*uwi-ni	flee
*una, unpina	cure
*un-e	quiet, cause to be silent
uni	desire, covet
ule	stop, cease
ule, (uel)	be sad, cry, be unable
ura	dig holes
*ura(pin)	make sport of, anger, feel, cause feeling
*uru-ni	fall
*urusi	have, carry
*urse, use	learn (language)
*usa-ni	have hang-nails on the fingers
use	smell, have an odor
usete, useti, usute	conceive (child)
*usiu-n	depart
*usiule	go out (fire)
*usui-mi	give seeds
*usulu	surpass, conquer
usxi-ni	be sad

uspu, usupu	fast
*ustu	whistle
*uska	cure by removing stick (sucking by shaman?)
*uske	mend, fix, repair
uxe, uxue, (uxwe)	guard; bring the object guarded
uxsi-ni	increase
*uhisoni	desire, crave, covet
up	roll
*upi	cover one's self (clothes)
upu	pay, buy, sell
*upxi, upxiti	sip, drink a little
*utisi	bargain, trade, buy, crave, desire, covet
*utix	crave, covet
utu	guard, place, sow (seed)
*utue	make a grimace
*utku	double, fold
uṭa-si	guard, protect (child)
*uke	bring water
*uk-ini-ni	wish to fall, walk around (dizzi- ness?)
uk-isi, uk-esi, uk-osi, uknesi	drink water
*utci	close
*uteu	open
uteu, uṭu, huteu	carry someone, raise, lift

## W

waian	miss, err
wane	satiate, cloy
*wane-ni	wound one's self
*walektis	follow in file
wal-u-n, wolo-n	be envious
wara, warsa	cut
warak, warka	weep, cry
*warepi	visit, salute
waris	dislike
warse, warsi	follow, perform
warta, wanta	hide behind
*was-e	cut and dry meat
*wasi	beg a great deal
*wasi	hate, abandon
*washski, (wacki?)	pulverize (with the teeth)
waxa, waktci, wak, waxu	scratch, scrape
*waxaiam	be thirsty
*waxa-ni	do an act slowly
*wata	seize, bring, take atole
wate	come, go

wate	lack, fail, be wanting
*waterei, wetere	augment, make great
*wak-u	open the stomach and entrails
wakun	drown at childbirth
wakna, waka-ni	freeze
wel-o	cover the head
wesi, xuksi	kindle, light
wexe	shield, cover
*wetso	take out the belly
wi	commence, begin
wiya	light, enlighten
wilki	unfold
wilo	affirm with the eyes
*wil̥tu	slope backwards above
wilkwo, welko	swell up (tule)
wire	blow upon, cure
*wirwe	illumine with a brand
wisa	display, show, teach
*wis-a	scratch (birds)
*wisen	dress a person
*wisen	spill, scatter
*wisol	uncover, disclose
*wispe	flash lightning
wixe	split feathers for arrows
wixi, wini, uxi-ni	fish, turn about, cure
wixia	dispute, question
wipa	invite
*wit	bow, stoop, jump
witi	fall, be thrown
*witu	break a fingernail
wik-e, wiwe	tremble, shake
*woso-ni	choke (with pinole)
*wopo	boil

## Y

*yam	catch (moles)
*yan	boast
*yanu-ni	have pain in the stomach from running
*yasa	not take
*yat-ia	frighten
yaṭa-ti	give anything
*yaṭan, lasun	be full (net)
yaṭi	follow, accompany
*yaṭs-e	be urged, impelled
*yeikmi, yere-ni	remain, continue, be suspended
*yenko	divide love (f)

yer	grow old, become torn
*yiusie	happen, succeed
*yim-, yumile	turn seat around
*yilu	commence, enter (season)
*yira	pick, prick
*yika	grind in metate
yono, yons	cut hair
*yoreti	chase, pursue
*yoron	pile up
*yoxon	loosen, slacken, ease
*yoso, yusu	have carnal intercourse <i>inter se</i>
*yoporon	make, manufacture
*yopok	hail
yoke	make sport of one
yoko	make ash, become ashes
*yuwi-ni	remain, stay
*yuya	bathe, swim
yume, yame	deceive, cheat
yura	kill by hand
*yuxi(s)	hope to
*yupki-ni	break the bottom off
*yutu-n	run, fall, flow (tears)

## M

*ma	look
mai	laugh, smile
*mai-a, mai-x	view, behold
man	quench, put out
mala, male	soak, wet
*mali	cover the genitals
*malu-n	come down for the night
*maxe	look down, view beneath
*maxer	make sport of one with the eyes
maxi, mawi	close
maxu	open
*max-tei	be blind, unable to see
*map-is	put hand over or in mouth
matal-, matulani	place face downward
matmu, matnui	stink, have bad odor
*mak-a	be indistinct
makai, maki	cover, place in order to clean
maku	get married
*maku	go to eat
mene, (mane)	forget
*menomi, monomi	sink to the bottom of the water
*meno-ni, menso	drown in the water
*mensie	be ignorant of, not understand
*merke	move from the house



mexe, maxe	look, see
mete	hide (in the grass)
*miwe, miwik, mixu	strike?
*milan	spread on the ground (bread)
*milka	rob one without apprehension
mira	give presents, regale
*mire	fix the head like newborn children
	warm oneself
*mistu	pluck the skin on the hand, graze
*mixira	brood in nest
*mipti	fall (bread)
*miŋo-n	test with the point of the finger
*mike	sharpen, temper, blunt (arrow)
mit-ci, mitcui, mintcui	run in a crowd
*moil-el-e	gather, collect, come together
*moitce, moiŋi	be late, delay
mome-n, (monie-n)	place something face downward
*momo	enmesh, entangle
*monoi	advise
monse	relate, recount
monsie	beg and accumulate (grain)
*moro	make sport of one by shouting
morke (morwe)	submerge, sink
*moxo-n	dance above (women)
moho, molio	make a reverence
*moti olupese	appear, grow (hair)
*motuhe-n	be born, leave
moko	love, desire, covet
*muisi-n	swallow without chewing
*muiku	suck
muma, mapu (mupa)	join, combine, meet (roads)
*mumi	soil, dirty
munse, munsu	camp, prepare for night
*mure	ache in molar teeth
mursu-n	suckle
musi	heat, warm
musi	like, covet
*musi	tickle in the nose
*musiuru-ni	rub, pulverize in the hands
*musuk-te	suspect, misconstrue
muxe	be hot (weather)
*muxi	finish grinding pinole
*muxuki, ixikan	close the mouth
mup-	tickle in the hands and feet
mut-	eat pinole
*mutie	hawk, cough
*muku	eat breakfast
*mutcipi	

## N

*nayate	go gathering, get
nam, nanm	hear, listen to, understand
*nane, nene	count, pass in list, miss
nansa (nausa, namma)	experiment, test
nansi	know, recognize
*nasu-ni	fall, break (fire, brand)
*natka-u	blacken, cause to become black
*neike	be quiet, gentle
nesepa	ask permission
*niatin	cease doing, quit
nimi	strike, beat, kill
nipa	teach
noso-po	breathe
*nox	guard, hide
notio	lie, deny the truth
noto	slap face, box ear
*nue	be
*nuiri	desire to, wish to
*nuisin	love
*numa-ni	increase (pain)
nusa-ni	pant, breathe heavily
*nuski	snore

## L

*laisaisi	sing rapidly
lala	fell, throw
lalei	fan, winnow
*lalu-n	lose, miss the road, wander
*laski(nis)	depart for another place
*latue	signal with the tongue
lak-e, lawe	rise, climb (sun)
laki	hang
laku-n, lanku-n, luskun	gulp, eat without chewing
*lakwa-n	change from one to another
*lakpom	trip, fall, roll and lose something
*latcia	remain in one place
*lel̥t̥e	turn the eyes too much
*lek-o	stink, have a bad odor
letsen, lessen, lelse	like, enjoy, please
liwa, lixwa	hide in the grass
liwi, (lik(.))i, liwi, likni, lixin, lix, uwi)	beat, cudgel, kill
*li-muok	steal, run, return and not catch
liui	amuse, entertain
liako-n, lisa-n	slip, slide, scrape, graze

lipa	hide in any place
*lik.wa	plaster, daub, smear, gloss
loe	loath, nauseate, repudiate
*lole	cause to speak, break a speech
*l.olio	be content, appeased, cease anger
*l.opopoi	pass between
*lopxe, lopkti	become mouldy (wheat)
lok(oi)s, loksio, lokosi	lie, make a mistake
*lokuk	put out (eye)
*luismu	fall from weight
*lulpus	play the flute
luxu-n, lux.u-n	stick in mud or clay, be stuck in
*luṭ.apa	wallow (in sin)
*luṭie	hang (like a swing)
*luka	soften the hair
*luteuma	get wet, soaked

## R

*ranu-n	have pain in the neck
*raṭs-a	increase, crackle
*ratcami	be swelled up with plants
*remomae	go from one place to another
*rensik	interrupt, confuse
*reṭe, rekṭe	gather, collect
*reṭie	hang in a hidden place
*reke	change oneself, move
*riwi	transform, change
riri	put selvage on cloth
*ristest	serve, do
ripa	hit with the fist
*ripu, roṭciwewi	release, disentangle, cleanse, purify
ripu	prick
*ripsa	open with a knife
riṭa	cry, shout
*rite	make dried meat
ritca	speak, talk, converse, recount,
	play, entertain
roroi-s, (roro-s)	play, entertain, divert, amuse
rote	be (substantive)
roto	drown
*rotuk, rotko	untangle, untie knot, knot, tie knot
*roko	put in the embers
roṭcio, roṭcue, roṭciwe	enmesh, entangle, free, disentangle
ruisu, ruisiu, ruisin, ruima,	move, stir, tremble, shake
rüki, ruinxa	
runa	dance
rusu	spit, expectorate
*ruxi	hide in the rear

ruta	speak about a person, or thing, refer to
ruta	cut, gather (wheat, feathers, etc.)
rutus	conceive (child)
*rutuk	signal "no" with the head
*ruṭu-n	surround by water, isolate

## S

sawe	sing
saya	shout, cry
*sayal	lie face upward
*samai, samia	cut the forelock
*sanae	approach, draw near
*salu-ni	get a cinder in the eye
salpa	hang, place in a cleft or fissure
*salki	split, fall apart
*sare	pray in one's room
*saromi	administer extreme unction
sarpa	patch, disappear from view
*sasa	discover, find (land)
sate	make sport of one by naming him
saṭar(a), siaṭar(a)	open the mouth
saṭe	toast
sak.a	bring a little
sakeri-ni	stick in the uvula
*satepume	bring coals, embers
seye	lengthen, expand
semo-n, semso-n, (semxo-n)	die
sele, sehele	look backward
selpe	intoxicate with tobacco or liquor, be crazy
sese	walk in file
seso-n	shiver
*sesort-po	swell with pride, become haughty
sesuk	decay
sepe (spepe)	cut hair
*sepie-n	satiate, cloy
*sialwini	split a flute
siaxu, siaksu	speak softly
*sietco-ni	hit (in stones)
siole	talk, converse among selves, be sad
siotio	tie hair in a tuft
*siokole-n	become hoarse, unable to speak
*siurire, simillile	have a ringing in the ears
*siuspu-ni	be blinded by the sun
*siuto	hunt moles

siwe-n, sik-e-n	break wind
*siwi-ni, sixi-ni	disappear (smoke, thirst)
siwi(ri-n)	suffocate with heat, burn
*sin-a-n	become bald
*sinmekpi	kiss
sinsi	act like a boy, <i>otacer</i>
*sinteu, suiteu	toast, cook in earth-oven
sinkuru, sinkuru	tickle in the body
*silku	lift skirt, pull shirt-tail
*siru	grind salt
*siru-ni, suxu-ni	rush, gush
*sitia-ni	have feet asleep
*siti-npe	crumble, chip, make small
siŋe	spread (fire)
siksa, sikila, (sika)	soil, dirty
*siteitee	cry with pain or weeping
*soinwe	enmesh, entangle
soro	flow, gush
*sorpo	disappear, dim, recede, vanish, fade
*soter-pu-ni	extend the feet
*sokoro	darken, become night
*sokto-n	get a drop of water in the eye
*suman, sumula	become soiled, dirty
*sumiri-ni	sleep from satiety
sumixi-ni, sunii-n, s-umiu	be content
sumu	decay
su-n, swi-ni	die
*sulu-ni	drop or cinder fall in the eye
*surire-n	die out, go out, extinguish (fire)
*sur-ni	heat, warm oneself
susu	be afraid, fearful
*suaxe	act foolishly, play the fool
*supe-ni	dream of one
supi	tie, bind
*sut-u-ni	break, crack
*sutwi	pinch the mouth
*sutki, sut-e	stretch the ears
*suka	go to meet
sukumu	smoke (tobacco)
suksi, sukis	think, watch, observe, disapprove
swi-n, swi-u	consume, use up, finish, die
*swisia-ni	singe the hair
swixe, sinxe	skin, take off hide
*switeu	toast
*steekele (cekelef)	set, place

## X

xaisku, xasku, (xaise-n)	tickle, itch
*xauue	draw, fetch water
xawa	call
*xawei	put on a veil
*xawimi	enclose, lock in
*xawi-ni	still, quiet, be quiet
*xamu-ni	die out, go out (fire)
xa-mpin, xa-npu	eat again
*xan-ni	desire, crave, covet
*xalawe	strike sparks
xalas	lie, make a mistake
*xaleti	play
*xalsi-npe-ne	kindle, light (flint and steel)
xalki	stretch, extend
xari	begin, commence
*xarxare	befall ill, happen badly
*xarpa	disappear, fade away, become in- visible
*xartcute	lack a bit, a little missing
xas-a	desire to, want to
xase-n, xasese-n	become angry
xasiwa	scratch
xasi-mu-n	be ashamed, shame
xasli-n (xarli)	fear, be afraid
xastitinme, xatirinine	enter wind and cold
*xapu	cleanse, withdraw dirt
xata	sweep
*xatu	gather, assemble (fleas)
*xatki	cleanse, purify
*xatki-ni	go to the other side
xaşa	hit
*xaşuel-e	grumble, complain
*xake-ni	be flatulent, full of wind
*xakwa-iku	go for mussels
xatci-n, xatsi-n, xaşi-n	die of hunger, thirst, laughing, etc.
*xeiwele, xeixeie	earthquake, tremble (earth)
xewe, xewi	cast shadow, reflect
xemko	set (sun)
*xelue	strip off bark
xelxelte	float
xeksio, (xelsio)	satisfy
*xieşe	hiccup
xii, wi, xih, xiixi, xiisi	go for fire, light fire
xiwa	arrive, bring
*xiwis	take off rope around neck
xima	seek, search
*ximsu	roll the head
xine, (xinkone)	go, walk

*xile	be wounded, have wounds
xiras, xiraṭ	scold, quarrel, lift the voice
xiri	make dried meat
*xirwi-ni	lessen, be ceasing (rain, wind)
xise	select, choose, elect
xisie, (xitsik)	make
*xiali-n	have pain in teeth
*xixwi	disdain, reject
xipu	carry
*xiteti	rub together
xiti, xitui, (xite)	cleanse oneself
*xitu-ni	catch the hand in the door
*xiṭa	make dried meat
*xiṭe	spur, prick, goad, stick
*xiṭe pet-o	stop (wind)
xiṭia, (xiṭa)	sew
*xiṭi-mi	become indebted
xiṭo, (xiṭa, xikṭo)	stretch, crawl
*xiṭorpi	throw, put, carry outside
*xiṭske-n	be contented
xiksi, xiwis, xikoi	tie, bind
*xitsik	make cotton cloth
xoin-we, xoixu-we, xoaxu	carry
*xowo	shout ho! ho!
*xomo	skin, take off hide
*xon(.)o(t)	<i>evolver al arco</i>
*xonkote, xonxote	bundle, collect in a bundle
*xolome, xauni	ignore, not invite
xorko	gulp, swallow
xope	climb, mount
xopo	give water, give drink
*xot-oro, xot-ori	put hand in vagina
*xotpo	set (sun)
*xotecolon	make a hole (water)
*xuma, (xutna)	grind (mortar or metate)
xu-mi	give anything
*xu-ni	finish life, approach death
xute	kindle, light fire
*xuṭa	place inside
xuṭi	play game
*xuṭ-u-n	remove dust, powder
*xuṭski, xuṭoki	seize, withdraw, remove
*xuka	change (song)
*xutcu	carry on shoulder

## H

*hairmurnik-ui	lift with one hand
hius-e, hinse, wise, ihuse-n	wish, desire, want
*hinti	throw, cast

*hihe(pim)	be defiant
*hume	join, impinge, strike
*humi-n	wash oneself
humiri, (umiri, tumiri)	baptize
humu-n, humsu-n,	fly
(umsu-n, unsu-n)	
*hun-i	mix, stir

## P

païta	hunt (geese)
*paye	be pregnant
paya	run
*pala	slap, hit with the palm
*palsi-mi-n	toast, cook
*parsa	gleam, appear light
parki	weigh
*part-cipu	saw a pine
*pasipi	visit, salute
*paskei	secure fire with flint and steel
paxať, partea	know, recognize
*patiami-n	bet, wager
paťi	have, hold in hand
*paťne	release, loose
*paťaxin, paťski	strike sparks
paka	seek, call, crack mussels
*pak-ak	marry
*paka-ksi	beat
*pakeit	obtain fire, make fire
*pakere	start (tears)
*pakul	give hand, shake hands
*paksa	shine, lighten (fire)
patei	fall dew, sprinkle
pele, pelke	stick, join together, loosen, separate
pelťe, peťe	shut eyes
pesoi(po)	remember, think
*pepena	<i>espigar castellanamente</i>
*pet-e	guard fried fish
*peť-e	escape, flee, fly, go
*peťe-ni	keep mouth closed
*peťole	keep feet together
*piisokri	knock with fingers
pio	cleanse teeth
*pinawai	have pain (neck)
*pilpul-e, pulpul-e, tultul-e	beat, palpitate (heart, pulse)
pira	inhume, bury
*pirka-n	scratch (birds)
*pisiex-i	grind, pulverize
pixi, pixe	split, open



*pixu-ni	burst pus
*pitilu, pistu	pinch, squeeze
pitipu, pitui-ni	cleanse intestines of excrement
*pitu-ni	flow, gush (tears)
*pitsi	frighten, frighten away
piṭe, piṭue, piṭui	tie, bind, unloose, untie
*piṭs-a	signal "no" with eyes
piteiwi	shake, cleanse the hair
*poistco-ni, poiteo-ni	break wind without knowledge
*poiko-ni	frighten, scare
*polo	<i>sunt sodomici</i>
pol-o	paint, draw
*porpore	doze
posio, pasio	cut, singe hair with brand
*pos-o	check, suspend, equal
*posolo aṭs	intend to dispute
*poso (poi)	be drunk, intoxicated
*poxoro-n	get the hives
poṭo	pull out down, fine hair, pluck
*poko-ni	swell, puff up
potsie	grumble, censure
*puns-i-wi	catch (birds)
*puns-i-ni	view with close attention
pulki-ni	break off bottom
*puriure	quake, tremble, earthquake
pusa	satisfy, fill, cloy
*pusi-n	twist like a whirlwind
*puxi	recover, feed, give to eat
*put-i	cover and guard
put-in	involve, wrap, gather
*putu	return and go from place to place
puṭa	bring acorns, etc.
puṭi, puṭe, putci-ri	blow
puṭski	pull hair
*puṭske	make the sound "put, put"
*putsiuṭe, potsinle	burn brightly, make no smoke (fire)

## T

*taula-si	hold in arms
*taye	go quietly
*tamin, tan-	double, fold
tamu	warm oneself in the sun, take the sun
*tamxa-ni	have earache
tamṭa	strike, beat
*tanu, tanyu, tan-	lift skirts
*tanta	embrace, lift in arms

*talu-ni	make blisters on hands
talʔu	extend the palms of the hands
*talku	spring, jump
*tasiute	watch, dance
*taʃu	display palms of hands
*taxara	follow, go after
tax(e)	ask, question
tapa	turn the tables, pay back in own coin
*tapi	measure
tata	touch
*taʃaka	extend hand
*taka-ni	burn
*tak-e	measure
taku-ni	choke, strangle
teme-n, temo, temso	sleep by fire, warm oneself by fire
tenpe, tempe	dry up (water, river)
tere	cut hair
terpe	smart, pucker (pepper)
tie, tik	grumble, complain
tio	shoot arrow
*tinsi-n	flower, be in flower
*timire-ni	have headache
*timu-ni	trip, stumble
tinke-ni	jump, spring, leap
*tilo	don regalia
*tiru	miscarry
*tirsu-n	cut, break
*tisi	cure the itch
*tixi	slice meat, make dried meat
*tixiro-ni	slip, slide, fall
tipe, tiptipe	wander, walk about
*tipur	cut hair
*tipso-ni	rattle, make a noise (bone)
*tipki	cut hand
*titi-n	cover with shoulder
*titu	fray, unweave
*tituk	lie on one side
*tiʔu	extend hand
*tit-ei	drown
*toutʔosi	harden, strengthen
*towo-n	remain rigid, frozen
tone, tonse	lose, find
*tolso	break knees
tor-ke	bring amole
*toxere-ni	be constipated
*topope	extend fingers and do <i>top</i> , <i>top</i>
totio-n	err, mistake, lie
*totoro-n	put in salt, salinify

*totue	put on shawl
tokso, (tokse)	rumble, make great noise, snore
*tuine	make wooden bridge
*tuisu, tuiu-rure	tremble (hand, belly)
*tume-n, tume-mels	make food
tun-e, (tunk)	finish, complete, end
tunute, (tanute)	conceive (child)
tule, (tulk)	knock at door, call
*tuluk	cover one (for the night)
tulku	give rap, fillip
tur-si	be cold, chilly
*tusi-n	watch a dance
*tusu-n	await, expect
tupu-n	finish, complete, end
*tuta	cover one, put on hat
*tutiu-n	die?
*tutisi	string a bow
*tukitce	lift earth, ( <i>enoorrar</i> )

## T

*tayuwire	smile, chuckle, half laugh
ṭala	be hot (weather), put in sun
*ṭasak	clear, clarify (sky, weather)
*ṭata	possess much, own much
*ṭatu-n	cease pain
*ṭatuhule	speak between teeth
*takarpite	sit down, sink
ṭeyo	blaze, heat, be afire
*ṭemelele	burn much
*ṭele	go in file, follow
ṭetesi	push, jostle, squeeze, hold
*ṭeke	tip-toe, walk on toes
*ṭien	kick
ṭiwi	put in bag, pocket
*ṭinai	tighten, constrain
*ṭiniwi	milk
*ṭil-usi	listen to attentively, hear
*ṭis-ektene, teirsextene	cover with ashes
ṭisku	split, break, smash
*ṭixṭa	hide in sand, be hidden
ṭipe	thresh grain
*ṭipe(spi)	make thongs, straps for the capote
*ṭip-wi	cut, shorten, clip, abbreviate
*ṭiṭi	defend
ṭika	chew, masticate
*ṭollo	be seated
ṭon(o)me	seek a dead animal
*ṭonko-n	wither, become ury (seeds)

*toxoro	pass, go by (water)
*tox(pe)	dry up (water, river)
*tu	strike in the eye
ṭuma-s, (ṭumas, ṭumsa-n)	like, enjoy, please
ṭunku, (ṭunuk)	signal "no" with nostrils, constricting them
*ṭulu	make a hole
*ṭura	thunder
*ṭursu, ṭutsu	walk continually, never stop
ṭupu-ni	put finger in eye
ṭuka	beg, ask

## K

kai, (kayi, kaixi)	smart, be strong, bitter, bite
*kai-ṭi	tighten, constrain
*kawak	advise, notify
*kam	do, make
kama(i), kamexe	look, watch, see, behold
*kamu	lend (wife)
*kamutce, xamutce	lack a bit, be missing a piece
*kane	go to the quarrel, fight
*kanxi	dry up
kale	defend
*kal-u	bite
*kar	be fortunate, happen well
*kara	grind, rub in the palms
*karapu	give tobacco
*karka	kindle fire with small sticks
*karki	bargain, trade, barter
kase	bite
*kaxi	louse, expel lice
kapal(a)	embrace
*kapaṭa	cross the arms, hands
*kapi	carry a large bundle under the arm
katia	give (clothes, food)
*katu	kill with teeth (lice)
*katu-ni	dry up (water)
*katca, katcuc	be full of crickets, insects; expel them
*kat.ci	drown
*keie(k)	gather, collect, come together
kowe, keinwe	obstruct, intercept
*keleṭe, kelṭe	frown upon, watch with disapprobation
*kelok(mo), kelox(mo)	play by pinching
*kenem	put in proper place
ketio	argue, dispute, contradict
kil-e	shine, glare, glitter

*kiriwire, kiripire	write
*kixti, kixti	have pain in throat
kipi	wink
*kipuhs	inflate, swell cheeks
kitpa	hide in hollow of a tree
*kiṭa	make fire with two sticks
*kitea, kitcua	close, lock with key; open, unlock
ko, ko., kwo., kwa, kua	say
kome	tire, become tired
*koliote	rumble, grumble (intestines)
*kwie, kule	whistle
kunile (kupile)	smoke (fire)
kusa	wash
*kusiinwi	meet, encounter, see
*kuxa	hide among rocks
kuṭa(s), kuṭa(r), kutcuru,	double, bind, tie
kuṭuru	
*kuṭ-a	tolerate, suffer, endure
krak(.)e, xrak(.)e	name, call

## TC

tcai(es)	praise
tecaora, teausara, (tecaura)	be seated, be (positional substantive)
*tecauri	stink, smell bad
*teanteane	walk with shoulders raised
tcala, (tcalsa, teasali)	urinate
*teahel-e, teehel-e	take the higher part (song)
tcapu	prick, stick, pinch
*tcaka, tcaksa	bring, arrive
*tcak-i, tcarki	leave, depart
*teaku-niti	hate, desert
*teakna-n	go ahead
*teimun, teaimun	treat ill, hinder, impede
*teimu-ni	bump the head
*teile	ring bell
teirpi	cry, shout
*teikri-n, teixri-n	reside, live
tcite	dance
*teitmo	prick, punch the eyes
*teoliote	water moves in intestines
*teorowe	moisten, dampen
teorok	sadden, become sad
*teotle	be in file or line
teokse, teos-o	have pain (in mouth or ear)
teunu, teuni, ṭunu; (tcun.),	wrap, extend, shorten, double,
teunuhwi	lift, fold, unfold
teulu	jump, spring, leap

*teulki	strangle, choke by squeezing neck
*teuspa	hide
*tenkuri-ni	defecate, void excrement

## ADJECTIVES

auli	salty, saline
austu	sweet-toothed, gluttonous
auxe	high, tall
amaya	nude, naked
amank	famous
ansi	left-handed
antiwin	small
asia	distinct, different
apsie, apsik	good
aŋeitak	so great
atcien	thievish
ateiwa	silly, filthy
euŋi	sweet
el-emo	soft (ground)
elepiz, elewia	straight, in file
emxe	very soft, gentle, easy
es-o	lewd, unchaste
eŋaxe	leafless, bare
ina	ill, sick
in-se	lachrymose
irk-ti-o, irx-ti-o	flatulent
isiwa	newborn
iŋas, iŋsa	new
itce	small, little
owos	obedient, faithful
omxol-e	light, without weight
olsie	soft, easy
umulu	filthy, vile
unxu	snotty, filthy
unkum	thin, rare
ursi	big-headed
usula, (usuna)	deep-set (eyes)
ukumi	crippled
utcili	full-lipped, thick-lipped
wartci	difficult, narrow, small (road)
was-a, waska, waksa	streaked, soiled
wasiwe	playful
we-solo, we-yero, we-saro	large, great
we-tan	large, great
wetemes-ate	lean, gaunt, thin
wiman	lazy
witina	sticky
witeuktel, witcuxtel, wits-u	narrow, small

womo	bearded
wot-olo	deep-set (eyes)
yamuṭsi	unequal, different
yateomas, yateceme	torn, full of holes
yer-se	torn, old, broken
yolṭo, yot-a	big-eared
yopono	ruptured
yusulu	fat, pot-bellied
mam-oxa, mam-oka,	foolish, stupid, silly
mam-anxa	
maxul-u	catarrhal, expectorant
maṭa	long-haired
matini, matil-i	large, great
meilo	large-mouthed
mex-el, max-ele	blear-eyed
meṭake	cloudy, clouded
minua	narrow, difficult (road)
misi-min, misi-mpin,	pretty, nice, pleasant, beautiful,
misi-a	good
mitile	curved, crooked, bent
mom-ti-e	slow, late, tardy
mureṭu, murteu, murṭu,	dark, black, like night
murt-cu	
muse	full-breasted
muṭimte	fat-buttocked
mutcira	pleated
natka	dark, black
niotsio	short, bob-tailed
noioro	big-footed
noti-ti-o	lying, untruthful
nop-ti-o	short in time, quick
nuxurikonin, nuxurixonin	flat-nosed
nutiri	big-nosed
laiṭa	long in time, tall, high, long
laskan	even, smooth, plain
laṭem	long, large-tongued
lakṭe, laxṭe	big-headed
lexeṭe	long, tenuous, stringy (phlegm)
l-e-ṭi-o, l-e-t-i-o, loito,	soft, easy, loose, not hard
lok-ti-o	
lisu, liisu	toothless, gums
lisnie	empty, clear
lit-imo	wet (hair)
lopote	firmly resolute
lopteo	ruptured
luplupsi	equal, straight, untwisted
lutcuma, luspi, l-uspi,	wet hair
luṭspi, luṭspi	
lutefi	big-bellied, hairless

rauŋa	with big occiput, back of head
riuŋa	thin, lean
riski	flat-nosed
ritea	liberal, frank, generous, beneficent
riteua	silly, foolish, stupid
rikŋi	protruding (eyes)
romso	granular
ropŋo	dirty-eyed
roteiteo, ritera, roteiko	blear-eyed
rutis	open, uncovered, excavated
ruŋai	congealed
saure, (sauri)	fat, greasy
saru	ruptured
saxirinme	sweet, odoriferous
saŋara	unclean
siat-cara	clear, rare, thin
sieperero	woolly, fleecy, hairy
simke	silent
sitl-u, sit-la	small, young
somsie	lewd, unchaste
sotolo, sokolo, sotiteo	big-lipped, large-mouthed
supiri	watered
sup-u	like a bladder, blister
xan-an	married
xalea	blind
xas, xase	brave, fierce
xaska	brunet, dark-skinned
xat-xatsi, xat-xasti	clean, well-swept
xemtso	silent
xene	unequal
xel-wen	content, satisfied
xetoesi	leafless, sharp-pointed, keen
xetaxe	tired, worn-out
xitsu, xitmin	insipid, tasteless
xontee, xonxontee	empty, void (mussels), melancholy, crestfallen
xos-ti-o, xoiscore	light, with little weight
xo-ti-es	foolish, silly
xo-ti-o, xole	loose, hanging
xotpe, xot-iko	bare, without fruit
xotŋu	with deep-set eyes and bushy eyebrows
xokoi(o)	scabby, itchy
hituktei, hituxtei	mixed, intricate
howos	well-served
hoxehen	tardy, late
humulu	black
husiero	big-mouthed



huklemesate	delicate, fine, light
paine	bloody
paisa	good at running
pal(.)ka	white
patka	pink, flesh-color, red, cream
pel-emo, pelsiek, pelek	soft
pelo (Sp.f)	bald, hairless
pelso	garrulous
pertewe	soft (bread)
pitko	pot-bellied
polso	painted, colored
polpol-si	<i>pinto</i> , spotted, full of points, streaked
porsie	trained (maker of unusual things)
porko	artistic
poxolo	prominent, bulging, protruding (eyes)
potsinle	smokeless (fire)
potxe	light, little weight
poteo	quick, active
punçu, puður	big-bellied, with much intestines
pultci-te	full-breasted
puțarte	newly-born
puț-u, pulçu, polço	extremely protruding, bulging (eyes)
putcete	anxious, desirous
tamtcite	partly painted, colored
tasiri	hard, tough
taxaruțe	drunken, reeling
taxara	in file, in a line, straight
tap-an	good
tapța	serious
tepțe	shady
tirși, tirtel	clear, limpid, pure
tirsia	large-buttocked
tixima, tilço	high-browed, with a large fore- head
tikili	large-eyed
titira, titiru	twisted, rounded
towo-ro	shivering with cold
torțe	ashy, ash-colored
to-ti-o	silly, foolish, lying, untruthful
tokolo	syphilitic
tokororoi	smooth, straight, even
tumuru	fat
tupsiu	humpbacked, crooked, bent, curved
țaila	dwarfed
țanara	spotted
țasku, țasas	pink, flesh-colored, red

taxiale	clear, limpid, pure
тата	rich, well supplied with garments
tak-i	heavy with fruit (trees)
takurnte	clear, thin, full of holes
tesele	pink below
tomto	with loose clothes
tonko	big-footed
tok-i-ti-e	good at running, swift
tuinuru	wrinkled
tuṭuare	blunt-nosed
tuṭuna	small-eyed
kai-nawin	narrow, difficult, small
kayi	strong, pungent
kaltcitee	loud-voiced
kaal-u	small-headed
katiṭu	pot-bellied, fat
kaṭili	with prominent teeth
kakxa, kax-a	bitter
kel(sie)	raw
kelṭe	opaque-eyed, blind
kero	twisted (tree)
kexil-on	hoarse
ketciwesi	ready, prepared
kirsi, kits-i	well-painted
kipi, kipiri	twisted, not straight, (feet, road)
kipuroro, kiwuroro	twisted, streaked
kititae	creaking, grating
kits-u	one-eyed, squint-eyed
koro	thin, gaunt, lean
kuinu, kwinu	narrow (road)
kuti	small
kutis	clear
kutes-kets-i	very well tied, bound
teal-ti-a	urinous, fond of urinating
tealka	white
tearka	clear (sky)
tearki	quiet, restrained
teakulsi, teuki	downcast, head downward
teese, teixu	blue (eyed)
teekere	torn open, ripped
teirti	yellow <i>moro</i>
teisire	provoked, angry, in bad humor
teomelei	cowering, squat
teoxisi, teopsoksi, teopsoksi	pock-marked
teoxorore, teokere	full of holes
teopolotesi	open, uncovered
tenierte	adorned, decorated
teupea	white, flesh-colored
teutsu, teutu	green

## ADVERBS

*Locative Adverbs*

an-it, anit, an-i, an-epe, anta, an	where?
ansia	distant, far
axe	apart, another place
emxe	far down, very distant, indistinct
enenum	out of sight
esen	behind
in <sup>ti</sup> s, in <sup>to</sup>	where?
iti	there, distant
it <sup>ian</sup> , it <sup>ayate</sup>	backward
orpei	in the middle
usiun, usionte	further on, further
winimui (wirimui)	below, under
naxana, nuxana, nuxu	there (farther)
ne, ni, nia, nitun, niatun, nime	here, hither
nu, nua	there (nearer)
lewet <sup>es</sup>	low
ramai (resmai)	within
rini	above
rinsiksi	high
sanae, saeanae	hither
sinki	end, edge
xut-ui	before, preceding
tapere	above
ti	there, behind
tina (pina), tina-tum, tina-tun, titun	right here, close, hence
tipilikte, tipilile, tikilakte	round about
titu	on one side
kari	outside

*Temporal Adverbs*

auxaie	yet, still
ameren	a little time, little while
ar, aru	already (past time)
aruta, (arua)	tomorrow
artiskun, at <sup>skun</sup>	suddenly
at, ara	shortly, soon (near future or re- cent past)
emen	still, yet, although
et, ete, yete, (yote, ikte, iste)	soon (indefinite future)
imi, ima.	always, all the time
in-at, inuat	when?

inya, inyaha, (yu'aha)	shortly, at once, (immediate future)
ipsiun	a little while, a short time
iti	after some time
itixsina	at last, today
itma	early in the morning
itsia, it-ia, it'sia, itian, it-iomtum, it-aiate	afterward, soon, shortly
osioi, osio	again, another time
ume, uni	when, whenever
ule	yet, still, as yet
wisi	past time
wika	yesterday
yas	ever, at any time
yeteste	shortly, soon, in a short time
maran, markum, markutkus	future time
maha	at once
mes, met	future time
naha	today
nua	yet, still, although
xapuhu, xaputca	never
hokse, hoks	a long time ago, formerly
huyakse, wiyakse	this afternoon
pinawai	then, therefore, in that case
tabax, taba	today, day
kane, kaneme	before, earlier than
ketciwesi, (ketciwesi, kepiresi)	soon, at once, ready
kotecop, (koph)	when, whenever
kus	in the olden times, once upon a time
kutis, kuti	presently, very soon, a little while
teien	now, at once
tcira	always, continually

### *Descriptive and Miscellaneous Adverbs*

aereis, eraeis	so, thus, truly
aman	so many
amane	in truth, truly
amanis-e	uninvited (?)
amun, amu, amn	in order that, concerning, because
asaha	truly, certainly
atpesi	good, truly
ats, ati	without, no
ewe, ene	and, but
ewoye, eye, etmoye	(past desiderative)
enohok	but (apposition)
es-e	just as if

esiensen, esiersem	(indirect discourse)
exe, xehe, he, lxi, hi, hexe,	yes
sexo	
epaeis, aoepaeis	perchance, perhaps
epsie, epsik	no! do not!
ekwe	no, not
imatkun, imaten.	if (contrary to fact condition)
isap, isu	truly, certainly
ipsen, utix	more
orteo, yenko	equally
usi	why, because
uksai	without more ado, heedlessly
walte	feet to head and head to feet
wele	(substantive?)
wisi	because
yas-e	also, as well
yekere	more, much more
yuta . . . . yuta	either . . . . or
ma	truly
moʔs	tell me! (interrogative)
muisin	(among them?)
nan, nami, nani	perhaps, maybe
nu at-ia	yes, of course
nuhilu, niʔahim	<i>cachibajo</i>
sata	like, as if
sire	strongly
xaʔxatci	stepping high
xene-kte	unequal
xenkoʔs-e	silently
xeheresi	low (voice)
xetʔkere	crawling
xiʔepu	strongly
hai, hahi, aiu, aia, hia, hiha	and, also (enclitic)
pini, pinyi, (pinya)	perhaps, perchance
taxe	(interrogative, final position)
tukne	would that! (past optative)
ʔaman	half
kaitis	with this, no more
kati, kata, katam	like, resembling, just as if
kua, kuai, kuawe	thus
tciei.e	high (voice)

## INTERJECTIONS

ain-, aiun, auin-, anin	give me it! bring me it!
atena rautik	shout at middle of dance
eʔ	shout at gambling game
iske	wait a moment!
it-ie, iuie	come on! let's go!

iklamini	wait a moment!
oŋo	run! go!
uruksia(ne)	would that! (vehement desire)
yela, yelamini	wait a moment!
yuma	come on! let's go!
yupe, yu	run! go!
waras	upon my life!
nami, nani	let's see! we'll see!
lalei	get out!
linei	shout at gambling game
ranx	shout at beginning of dance
sotoi	shout at gambling game
sukai	shout at gambling game
xep	shout at gambling game
xine	look!
xouwo	shout at end of dance
xuŋi	shout at gambling game
tuii	shout of gambling game
ŋiu	shout of gambling game
kama	look!
kari	shout of gambling game
ke	listen! look!
kie	who knows!
teaorak	shout at gambling game
teit, teitsak	shout at gambling game

## POSTSCRIPT

At Pleasanton, California, live a small number of Indians, members of various central Californian groups, gathered here by reason of community of interest. They speak Spanish and Plains Miwok among themselves. A visit was paid them for a few hours in January, 1916, for the principal purpose of securing terms of relationship and notes on social organization. One of the two informants visited proved to be an elderly woman from San Lorenzo and from her a vocabulary of a hundred odd words was secured. A comparison of this with De la Cuesta's Mutsun shows actual identity in many cases. The practical identity of so many words proves first, the phonetic simplicity of the language, the care with which it was recorded and the value of the Spanish language as a medium for the recording of such aboriginal speech; second, the slight change which has taken place in this unliterary language in the past century, and third, the correctness of the recent transcription from Spanish to phonetic orthography. As regards the latter point, the correctness of the transcription of *gm* and *gn* to *km* and *kn* is demonstrated, while that of *gs* to *xs* in accordance with *tigsin*, *tixsin* is discounted by the record of *tugsus* as *tuksus*. No data were secured to elucidate the problem of *gt* and other *g* combinations.

The glossary secured follows here for purposes of comparison:

oriš	bear	hun	wolf
oʔo'imin	snake	pirēwiš	rattlesnake
ma'i.yan	coyote	tcukuti'	dog
ha'mui	fish		
a'rwex'	oak	Ta'Por.	wood
yu'kiš	live oak	tiwiš	flower
in	tears	si're	liver
išu	hand	xu:s	nose
urix, urí	hair	hēyek'	beard
we'per	mouth	hiñ	eye
mi.'nyix	heart	horko'sa	throat
mōtel, mo.tel	head	Ta.mas	eyebrows
mu:c	breasts	tim.a'x'	forehead
las:e	tongue	tumiš, tumš	leg, loins
*ran.ai'	back of neck	Tu:z.	nail
ri.tuk	intestines	tukšuš	ear
si.T, sit	teeth	korō'	foot

inux <sup>w</sup> .	road	*ru'wai'	house
hu't.i	bow and arrow	tepla'i'	basket
apa.	father	šinín	daughter, child
ana.	mother	šín'mate'	small child
añci	paternal aunt	sultra'wu	white people
airakiš	woman	ha'uak'	wife
a'tciakic	virgin	hu'nrate'	old man
ete.	uncle or aunt	PaPa	paternal grand-
iniš	son		father
uetreš	chief, shaman	Taka.	elder brother
u'xi	mother-in-law	ta.riš	man
mele'	grandmother	Tale.	younger sister
mák.o	husband	ta'nan	elder sister
mayin	wife of chief	Tanšikiš	younger brother
merš'i	father-in-law	kaš'netc'	old woman
mš'riš	daughter-in-law	Kot.co	young man
muekma	people	tcotco <sup>a</sup>	grandson
a.we	morning star	yuk.i	ashes
irek'	stone	ai	water
omu'w,omu'x <sup>w</sup>	sea, arroyo	*š'i'tic	fog
oš.e'	stars	hi'yis	fire
warš'p'	land	hišmen	sun
yo.ko	live coal	kormei	moon
uik.ani	yesterday	hiwe'	shaman's dance
ne tuhi	today	hu.š'i'š	tomorrow
*ri'simu	hill near town	ka'n.o	north
makišmo'.To		it is cloudy	
makiš a'.m'ne		it is raining	
yuwa'kne mak'šamne		it ceased raining	
herwe		it is hot	
kauwi'		it is cold	
lošköwiš, loško'iš		it is white	
sirke'wiš		it is black	
pultewis		it is red	
we'ter		it is large	
kutcu'iš		it is small	
šumikiš		give me!	
man-i röti		where is it?	
ri'tcikmin		shouting of shaman at dance	
hu'.tukne		he died	
ka'.nak hu'tusin		I am going to die	
me-nem hu.tusi <sup>a</sup>		you will die	
wa.ka hu.tusin		he will die	
maki-n makhu'tusin		we will die	
makam kamhu'tusin		you (plu.) will die	
wa.kamakeahu'tusin		they will die	
hu'.tukne'x		I have died	



o'.miš ni'm i'	I am going to kill you
ka'.na ekni'mi oriš	I am going to kill the bear
me.nek' snimi	you will kill me
ma'kam kisni'mi	you (plu.) will kill me
wa'.kamaK makisni'mi'sim	they will kill me
ka'.na <sup>2</sup> tō'. <sup>2</sup> he	I run
ka.na ektea'.u'ra	I sit
ne.ca tea.u'ra	now I sit
ka.na ka'yin	I am ill
pí.n ka'in	he is ill
ka.'iksiksir	my tooth aches
ka.'iksikmo.tel	my head aches
kiška.ikrumš	my back aches
ka.nak u'tkani	I am playing
ka.naksa'wi	I am singing
ka.na'xi'xi	I am dancing
ka.na kwarka	I am weeping
ka.na eki''wi	I am shouting
ka.'nakra'pona	I am going to stir
ka.'nakio'rcyen	I am laughing
a'Tcišmente	I want to vomit
ekit' kanKana	I am hungry
anini.k'	I am thirsty
hi'nŋoka'masin	I am going to eat
akwet' kinšuste takaa'ma	I don't know what I will eat
ka.nak teatee	I am standing
ka.nak.emle	I am lying down
ka.nak eŋe	I am sleeping
ka.nak i'tma	I got up
ka.nak hō'pe	
ka.nak e'son	I get down
ka.nak yoken	I am tired





## INDEX\*

Titles of papers in this volume are printed in bold-faced type.

- Acatl (Aztec day-sign), typical form, 306; ornamental form of, 331 fig. 7, 368, 369 fig. 29.
- Accent, stress, mode of emphasis, in language of Germanic origin, and in Kato and other Athabascan dialects, 17.
- Achomawi, 281 footnote 6, 287, 288 footnote 16.
- Adjectives, Mutsun, 425, 461. *See also* Suffixes.
- Adverbs, Mutsun, locative, 466, temporal, 466, descriptive and miscellaneous, 467.
- Algonkin, 288.
- American Indians, Handbook of*, cited, 288.
- Animals, list of names of, in Mutsun language, 427.
- Antigüedades mexicanas*, 300.
- Athabascan, 288.
- Athapaskan, spoken by Sarsi Indians, 190.
- Atl (Aztec day-sign), typical form, 306; ornamental form of, 331 fig. 7, 357 fig. 22, 358 fig. 23, 359, 360.
- AtlAtl, 337, 338 fig. 7, p. 368.
- Atsugewi, 281 footnote 6, 287, 288 footnote 16.
- Aztec calendar, 300; time-periods in, 300, 302; intercalations in, 300, 317, 319, 320, 328; Venus year, 301, 320; Mercury year, 301; moon not regarded, 301; star-periods, 301; cempoalli, 301, 302; nemontemi, 301; method of making observations, 303; system of dating, 303, and method of writing dates, 309; day-signs, 304, derivation of, 327, delineation of symbols in manuscripts, 328; thirteen as a factor in, 308, 313, 323, 324, 326; numerals, 308, 313, 322, 323, 324, 326; Tonalamatl, 310, 311, 315, 325; cycle (fifty-two year period), 314; not devised for chronological records, 315; as a means of soothsaying, 315; index of birthday used for personal name, 315; corrections of, 316, 317, 319; original sources, 318, 319; origin of, 321; twenty as a factor in, 322, 326; probable line of evolution, 327. *See also* Time-periods, Thirteen, Day-signs.
- Aztec codices. *See* Codices, Aztec.
- Aztec manuscripts, delineation of day-signs in, 297; bibliography of, 394. *See also* Codices, Aztec.
- Aztec mythology, cataclysms in, 379.
- Aztec year, initial day, 312; year-sign, 314; cycle of fifty-two years, 314.
- Baegert, cited, 290.
- Bandelier's papers on ancient Mexican manuscripts, value of, 320.
- Barrett, S. A., cited, 281 footnote 6.
- Bartlett, 280.
- Bear, totem, 295.
- Beaver language, 190.
- Belmar, Francisco, cited, 280, 285; orthography altered, 281.
- Blackfoot Indians, Sarsi associated with, 190; Sarsi stories about, 263, 269.
- Boas, F., cited, 288.
- Boas Anniversary Volume, 303.
- Bologna Codex, 309.
- Book of Indexes, 310; applied to time-periods, 311.
- "Book of Tributes," 299.
- Brinton, D. G., 280, 289; cited, 279, 288.
- British Columbia, relationships of Indian languages of, with Sarsi and Beaver, 190.
- Buffalo hunting, Sarsi texts, 273, 275.
- "Calendar round," fifty-two years period in Maya Calendar, 314.
- Calendar symbols in the manuscripts, delineation of, 328.
- Calendar system of the Aztecs. *See* Aztec calendar.
- California, Gulf of, 280.
- California, Lower, 279, 290.
- California, South Central, social organization of Indians, 291; to be compared to that of Luiseño,

\* Univ. Calif. Publ. Am. Arch. Ethn., vol. II.

## Index

- Mohave, and Pima, 295; interrelations within its own area, 296.
- California, University of, scientific publications on native Indian languages, 401.
- Calli (Aztec day-sign), typical form, 306; ornamental forms, 341, 342.
- Campo, California, Diegueño dialect spoken at, 177 footnote.
- Cane (Aztec day-sign), typical form, 306; ornamental form, 331, fig. 7.
- Cempoalli, in Aztec calendar, a "period of twenty," 301.
- Chamberlain, A. F., cited, 288.
- Chavero, 300.
- Chemakuan, 288.
- Chimariko, 281, 285, 286, 287.
- Chontal. *See* Tequistlatecan.
- Chumash, 287.
- Chumash and Costanoan Languages*, cited, 421 note 8.
- Cipactli (Aztec day-sign), typical form, 306; ornamental form, 329, 330 fig. 5, 333 fig. 8; sources of drawings, 334.
- Clavigero, original source for study of Aztec calendar, 319.
- Coatl (Aztec day-sign), typical form, 306; ornamental forms, 329, 329 fig. 4, 345 fig. 13.
- Cochimi, proximity of the Seri to, 280.
- Cocopa, 186 footnote 34; fricative x, 180 footnote 10; open vowel compared with Mohave and Diegueño, 184 footnote 20; proximity of the Seri to, 280.
- Codex, Bologna, 309; Borbonicus, 300; Tro-Cortesian, 323; Vatican A, 320; Zapotec, 299.
- Codices, Aztec, publication of by Lord Kingsborough, 299; numerals in, 308.
- Costanoan, Mutsun dialect of, 399, 400; structure, 402; phonetic system, 402; vowels, 402; consonants, 402; sonant g missing, 403.
- Cozcaquauhtli (Aztec day-sign), typical form, 306; ornamental form, 364 fig. 26, 375 fig. 33, 376.
- Cree, 261, 269.
- Crowchief, Charlie, interpreter, 190.
- Cuesta, Father Felipe Arroyo de la, the Mutsun dialect of Costanoan based on vocabulary of, 399; collection of Mutsun words, phrases, and sentences, 400, 470; Mutsun grammar, 401, 420, 421.
- Cuetzpalin (Aztec day-sign), typical form, 306; ornamental forms, 343, 344 fig. 12.
- Curo, Rosendo, Diegueño Indian, 177.
- Cycle, fifty-two year period in Aztec calendar, 314.
- Dates, in Aztec calendar, system of, 303; method of writing, 309; date of birthday used for personal name, 315.
- Day-names, Aztec, 305.
- Day-signs in Aztec manuscripts, delineation of, 297; typical forms, 306; year named after initial day-sign, 312; dominical, 312; local varieties, 321; sequence of, 330; convergence, 331, 354, 355, 362; ornamental forms, figures of: Snake, 306, 329, 345, 346; Water-Monster, 306, 330, 333; Rain, 306, 331, 385, 386 fig. 36; Flower, 306; Cane, 306, 368 fig. 28; Grass, 306, 364; Wind, 306, 338, 389 fig. 37, 390; House, 306, 341; Lizard, 306, 344; Death, 306, 347, 350; Deer, 306, 351, 352, 354, 355; Rabbit, 306, 353, 354, 355, 356; Water, 306, 331, 337 fig. 22, 358 fig. 23, 359, 360; Dog, 306, 361 fig. 24, 362; Monkey, 306, 363, 364, 365 fig. 27, King-Vulture, 364 fig. 26, 375 fig. 33; Ocelot, ocelotl, 306, 370, 372 fig. 31; Eagle, 306, 373 fig. 32, 374; Motion, 306, 377, 378 fig. 34; Flint, 306, 381 fig. 35, 382; borrowing of characteristics between, 391 fig. 38, 392.
- Day-symbols in Aztec calendar, 305; derivation of, 327; delineation of, 328.
- Death (Aztec day-sign), typical form, 306; ornamental forms, 347, 350 fig. 15. *See* Skull.
- Deer (Aztec day-sign), typical form, 306; ornamental forms, 351, 352 fig. 16, 354 figs. 17 and 18, 355 figs. 19 and 20.
- Deer totem, 295.
- Delineation, The, of the Day-Signs in the Aztec Manuscripts, 297.
- Diegueño Language, Phonetic Elements of the, 177.

## Index

- Diegueño language, phonetic elements of, compared with Mohave, 283, 284; unaccented vowels, 284.
- Dixon, R. B., cited 279, 281 footnote 6, 285, 286, 287, 288 footnote 16.
- Dog (Aztec day-sign), typical form, 306; ornamental forms, 361 fig. 24, 362.
- Dominical day-signs, 312.
- Eagle (Aztec day-sign), typical form, 306; ornamental forms, 373 fig. 32, 374.
- Eagle-ribs, Sarsi informant, 191; story about, 223; war deeds of, 269.
- Eagles, in Sarsi texts, 277.
- Edmonton, Canada, 257.
- Ehecatl (Aztec day-sign), typical form, 306; ornamental forms, 337, 338 fig. 9.
- Elements of the Kato Language, 1.
- Enclitics in the Mutsun language, 426.
- English, parts of speech, 405.
- Esselen, 281, 286, 287.
- Fabrega, José, original source for study of Aztec calendar, 319.
- Flint (Aztec day-sign), typical form, 306; ornamental form, 381 fig. 25, 382.
- Flower (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 389 fig. 37, 390.
- Förstemann cited, 301; on element of thirteen in Aztec calendar, 323, 324, 325.
- Fortes, member of dental series of stops in Kato language, 10.
- Gender, in Mutsun language, 408.
- Genitive case of Mutsun nouns, 410.
- Goddard, P. E., 1, 189.
- Goodman, cited on the tonalamatl in the Aztec calendar, 326.
- Grass (Aztec day-sign), typical form, 306; ornamental forms, 331 fig. 7, 364, 366 fig. 28.
- Haida, 288.
- Harrington, J. P., 177; cited, 287.
- Henshaw, H. W., cited, 288.
- Hernandez, F., work on *Guerra del Yaqui*, 280.
- Hewitt, J. N. B., cited, 280.
- House (Aztec day-sign), typical form, 306; ornamental forms, 341.
- Humboldt, original source for study of Aztec calendar, 319.
- Indo-European, 286; model categories, 418.
- Inflection in Mutsun language, 408.
- "Intercalations" in Aztec calendar system, 300, 317, 319, 320, 328.
- Interjections, Mutsun, 468.
- International Phonetic Association, 184 footnote 20.
- Iroquois, 289.
- Itzcuintli (Aztec day-sign), typical form, 306; ornamental forms, 361 fig. 24, 362.
- Ixtlilxochitl, Fernando de Alva, original source for study of Aztec calendar, 319.
- Karok, 281, 286.
- Kato language, elements of, 1; stress accent in, 17.
- Phonology:
- Individual sounds: vowels, 4, semi-vowels, 5; continuants: liquids, 5, nasals, 6, figures of, opp. 92, 94; spirants, 7, figures of, opp. 88, 90, 96; stops: labial, 9, figures of, opp. 98; dentals (fortes), 9, figures of, opp. 100; palatals, 11, figures of, opp. 102, 104; velar, 12; glottal, 12, 13; affricatives, 13, figures of, opp. 106; table of sounds, 13; comparison of Kato and Hupa sounds, 14; assimilation of sounds, 17.
  - Modification of syllables, 17.
- Morphology:
- Nouns: simple, monosyllabic, 19; figures of, opp. 110; with possessive prefixes, 21, figures of, opp. 112, 114; parts of the body, 21; clothing, 23; relatives, 23.
  - With suffixes, 23, figures of, opp. 116, 118; plural and class suffixes, 24; locative suffixes, 24; suffix with instrumental meaning, 26; suffixes of temporal-modal force, 26; suffixes of size, shape, and color, 26.
  - Nouns compounded with nouns: first noun qualifies the second, 27; with possessive prefix for second component, 27; with second component modifying the first, 27.

# Index

- Nouns compounded with adjectives, 28, with verbs, 29; adjectives and verbs used as nouns, 29; figures of, opp. 124; verbs with instrumental prefix used as nouns, 31, figures of, opp. 132, 134; polysyllabic nouns unanalyzed, 31; figures of, opp. 120, 122, 126.
- Pronouns, personal, 32; personal demonstratives, 33; demonstratives, 34; interrogative and indefinite pronouns, 34; figures of, opp. 130.
- Adjectives, 35; pronominal, 35.
- Numerals, 36; cardinals, 36; multiplicatives, 36; distributives, 36.
- Directional words, 37.
- Adverbs, place, 38; time, 38; manner and degree, 39; figures of, opp. 128, 130.
- Postpositions, 39; particles and interjections, 41.
- Verbs, 42.
- Prefixes, first position, 42; adverbial, 43; deitic, 49, 51; objective, 51; first modal, 52; second modal, 53; subjective, 55; third modals, 57.
- Stems, 59.
- Suffixes, 80; source of information, 80; modal, 81; temporal, 83.
- Tenses and modes, 84; table of analyzed verbs, 85.
- Tracings of speech, interpretation of, 86; lateral sonant and spirant, 88, 90; nasals, 92, 94; spirants, 96; labial stop and nasal, 98; dental stops, 100; sonant palatal stops, 102; surd palatal stops, 104; affricatives, 106; miscellaneous, 108; monosyllabic nouns, 110; nouns with possessive prefixes, 112, 114; nouns with suffixes, 116, 118; polysyllabic nouns, 120, 122, 126; nouns of verbal origin, 124; adverbs, particles, etc., 128; pronouns, adverbs, 130; prefixes of verbs, 132, 134; verbal prefixes, subjectives and objectives, 136; verbal suffixes, 138; suffixes of verbs, 140; verbal stems, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176.
- King-vulture (Aztec day-sign), typical form, 306; ornamental form, 364 fig. 26, 375 fig. 33, 376.
- Kingsborough, Lord, publication of Aztec "codices," 299.
- Kroeber, A. L., 177, 279, 401; cited, 403 note 6, 421 note 8.
- Kuyahomar, 181 footnote 16.
- Kwayu, 181 footnote 16.
- La Posta, 177.
- Leon y Gama, Antonio, original source for study of Aztec calendar, 319.
- Library of American Linguistics*, 400.
- Lizard (Aztec day-sign), typical form, 306; ornamental forms, 343, 344 fig. 12.
- Loustanou, 280.
- McGee, W. J., monograph on the Seri, 280.
- Magic, famine relieved by, 251; practice of, 253.
- Maguey, 299.
- Malinalli (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 364, 366 fig. 28.
- Manual de los ministros de las Indias, 301.
- Manuscripts, Aztec, 299. *See also*, Codices, Aztec.
- Manzanita, 177.
- Maricopa, fricative x, 180 footnote 10.
- Mason, J. A., 399.
- Maya calendar, 314.
- Mazatl (Aztec day-sign), typical form, 306; ornamental forms, 351, 352 fig. 16, 354, figs. 17 and 18, 355 figs. 19 and 20.
- Mesa Grande, San Diego County, 177, 179 note 9.
- Mexican Antiquities*, 299, 332.
- Mexico, 288.
- Miquiztli (Aztec day-sign), typical form, 306; ornamental forms, 347, 350 fig. 15. *See also* Skull.
- Modal categories, Mutsun, 418.
- Mohave, comparison of Diegueño with, 177, 178, 180, 181, 182, 183, 184, 185; representative of Yuman group, 281; w of, 282; k, and ̰ of, 283, 284; other dialectic comparisons, 285, 286, 287.

## Index

- Monkey** (Aztec day-sign), typical form, 306; ornamental forms, 363, 364, 365 fig. 27.  
**Monterey**, California, 400.  
**Monterey County**, California, 295.  
*Monumentos del arte mexicano antiguo*, 299.  
**Morning-star**, mentioned in Aztec manuscript, 303.  
**Morphology of the Kato language.**  
*See* Kato language, elements of.  
**Reduplication in Mutsun**, 408.  
**Motion** (Aztec day-sign), typical form, 306; ornamental form, 377, 378 fig. 34.  
**"Motolinia"** (Toribio de Benevente), original source for study of Aztec calendar, 319.  
**Mutsun Dialect**, The, of Costanoan Based on the Vocabulary of De La Cuesta, 399.  
**Mutsun language**, 400, 401; structure, 402; phonetic system, 402; vowels, 402; consonants, 402; phonetic laws, 405; de la Cuesta's collection of words, phrases, and sentences, 400, 470; his grammar, 401, 420, 421.  
**Parts of Speech**, 403.  
**Nouns**, 403, 405; suffixes, 406, 410; inflections, 408; gender, 408; grammatical person, 410; genitive case, 410; classified lists, 427-439.  
**Pronouns**, 411, 439; demonstrative, adjectival, and interrogative, 440; lists of, 439, 440.  
**Verbs**, 411, 441; suffixes, 412; reduplication of verbal stems, 412; modal categories, 418; relations implying motion, 420; negative particle, 423; lists of, 441-461.  
**Adjectives**, 425, 461; suffixes, 425, 426; lists of, 461-465.  
**Particles**, 426; enclitics, 426.  
**Adverbs**, locative, temporal, 466; descriptive and miscellaneous, 467.  
**Interjections**, 468-469.  
*See also* Suffixes, Numerals.  
**Nahuatlan**, 288.  
**Nejo**, Isidro, 179.  
**Nemontemi**, in Aztec calendar, 301, 302.  
**Nose-plug**, used in delineation of Aztec day-signs, 335, 373.  
**Numerals in the Athapascan dialects**, 36; in the Aztec calendar, 308, 313, 322, 323; list of, in the Mutsun language, 439.  
**Nuttall, Mrs. Z.**, cited, 303; on initial day-signs in Aztec calendar, 312; original source for study of Aztec calendar, 319.  
**Oaxaca**, Tequistlatecan idiom of, 279; Belmar's work on, 280.  
**Ocelot**, Ocelotl (Aztec day-sign), typical form, 306; ornamental forms, 370, 372 fig. 31.  
**Olin** (Aztec day-sign), typical form, 306; ornamental form, 377, 378 fig. 34.  
**Onorato**, Digueño Indians, 177.  
**Oregon**, 288.  
**Orozeo y Berra**, Manuel, original source for study of Aztec calendar, 319.  
**Ozomatli** (Aztec day-sign), typical form, 306; ornamental forms, 363, 364, 365 fig. 27.  
**Pala**, 177.  
**Palaihnihan**, 288 footnote 16.  
**Particles in the Mutsun language**, 426.  
**Peace River**, Canada, 190.  
**Peñafiel, A.**, 280, 299.  
**Penutian**, contrasted with Hokan, 286; new family, 288, 401.  
*Phonetic Elements of the Diegueño language*, 177.  
**Phonology of the Kato language.**  
*See* Kato language, elements of.  
**Piegan**, 259.  
**Piman**, 288.  
**Pinart, A.**, 280.  
**Pleasanton**, California, Indians at, 470.  
**Pomo**, 281, 286, 287.  
**Powell, J. W.**, cited, 288.  
**Prefixes**, in the Kato language.  
*See* Kato language, elements of.  
**Quauhtli** (Aztec day-sign), typical form, 306; ornamental forms, 373 fig. 32, 374.  
**Quetzal-coatl**, Aztec wind-god, 307; represented by day-sign, Wind, 337; realistic drawing of, 338 fig. 9, q; figure of face, 340 fig. 10; ear-ornament, 377.  
**Quiahuitl** (Aztec day-sign), typical form, 306; ornamental forms of, 331, 385, 386 fig. 26.  
**Rabbit** (Aztec day-sign), typical form, 306; ornamental forms, 353, 354 figs. 17 and 18, 355 figs. 19 and 20, 356 fig. 21.  
**Rain** (Aztec day-sign), typical form, 306; ornamental forms, 331, 385, 386 fig. 36.  
**Ray, Bill**, vocal tracings of Kato language, 3.



# Index

- Rousselot apparatus, 190.  
 Sahagun, Bernardino de, 300, 318; cited, 303.  
 Salidon, Diegueño, Indian, 177.  
 Salinan, 287; totems, 295.  
 San Diego County, California, 177.  
 Salishan, 288.  
 San Felipe, California, 177.  
 San Juan Bautista, Mission, California, 400.  
 San Lorenzo, California, 470.  
 Sapir, E., cited, 281 footnote 6, 288.  
**Sarsi Texts**, 189; key to sounds, 191; Sun Dance, 193; prayers, 197, 227, 233; hair parters, 197; counting of coups, 203, 269; clog feast, 209; societies, 215; qualifications and duties of chiefs, 215; shamans, 217; sports, 219; painting of tipis, 219; buffalo pounds, 221; trapping beaver, 219; primitive dishes, 221; stone arrowheads, 223; What Eagle-Ribs Saw at Edmonton, 223; planting tobacco, 227; Buffalo Bill Gives a Shield, 231; painted tipi, 243; buffalo stone, 243; famine relieved by magic, 251, by Broken Knife, 253; Two Hawks Test Their Speed, 263; water-being, 267; ghost, 269; grass-hopper, 273; buffalo-hunting, 273, 275, eagles, 277.  
 Seler, Edward, cited, 301, 303; on initial day-signs in Aztec calendar, 312 note 22; original source for study of Aztec calendar, 319; on element of thirteen in Aztec calendar, 323, 324, 325; investigations of Mexican chronology, 327; criticism of conclusions, 335, 336.  
**Serian, Tequistlatecan and Hokan**, 279.  
 Serna, Jacinto de la, cited, 301; original source for study of Aztec calendar, 319.  
 Shasta, language, 281, and footnote 6, 286, 287, 288 footnote 16.  
 Shea, J. G., Costanoan manuscripts, published by, 400, 405.  
 Shoshonean, 179 note 9, 288, 291, 292.  
 Siguenza, Carlos, original source for study of Aztec calendar, 319.  
 Sioux, story of Sarsi boy's escape from, 259.  
 Skull, representation of in Aztec day-signs, 348, 349, 350; realistic drawing of, 350.  
 Snake (Aztec day-sign), typical form, 306; ornamental forms, 329, 329 fig. 4, 345 fig. 13, 346.  
 Sonora, relation of Seri language of, to Tequistlatecan and Yuman, 279.  
 Spanish spoken by some Indians in California, 470.  
 Spanish j compared to Yuman developments, 180 footnote 10.  
 Spanish orthography used for expressing Costanoan sounds, 401, 402, 403.  
 Star-periods in Aztec calendar system, 301.  
 Stops in the Kato language. *See* Kato language, elements of.  
 Suffixes in the Kato language. *See* Kato language, elements of.  
 Suffixes of Mutsun adjectives: adjectival, 425, 426; infix occasionally found before, 426.  
 Suffixes, of Mutsun nouns:  
   Etymological: resultative, 406; infinitive, 406; causative, 406; abstractive, 406; instrumental, 406, 407; agentive, 407; nominal, 407.  
   Morphological: plural, 408; compositional, 409; partitive, 409; terminative, 409; objective, 409; instrumental, 409; locative, 410; comitative, 410; regressive, 410.  
 Suffixes, of Mutsun verbs:  
   Etymological: possessive, 412; imitative, 421; purposive, 412; dative, 413; substantive, 413; oppositional, 413; excessive, 413; corporeal, 413; mandatory, 414.  
   Morphological: indefinite, 415; past tense, 416; intransitive, 416; transitive, 417; reflexive, 417; reciprocal, 417; passive voice, 418; future passive, 418; perfect passive, 418; imperative, 419; missionary imperative, 419; subjunctive, 419; hypothetical, 419; conditional, 419; iterative, 420; mandative, 420; purposive motion, 421; prohibitive, 421; "excellence," 421; beneficial, 422; perfect transitive, 422; adjectival, 422, 423; perfect intransitive, 423.

# Index

- Swanton, J. R., cited, 288.  
 Taylor, A. S., 400.  
 Teagucagga, a wise Sarsi, 427.  
 Teapatl (Aztec day-sign), typical form, 306; ornamental form, 381 fig. 35, 382.  
 Tehuantepec, California, 279.  
 Tenochio, 280.  
 Tezozomoc, cited, 303.  
 Thirteen, as a factor in Aztec calendar, 308, 313, 323; importance of, 324; Förstemann's theory of origin, 324, 325; Seler's hypothesis of origin, 324, 325; factor in the tonalamatl, 326.  
 Thomas, Cyrus, 299, on vigesimal numeral system in Aztec calendar, 322; on element thirteen in Aztec calendar, 323.  
 Thomas, C., and Swanton, J. R., map of linguistic stocks of Mexico, 280.  
 Tiger (Aztec day-sign), 306.  
 Time-periods in Aztec calendar system, 300; method of determining, 302.  
 Tlaloc, rain-god, 385.  
 Thingit, 288.  
 Tochtli (Aztec day-sign), typical form, 306; ornamental forms, 353, 354 figs. 17 and 18, 355 figs. 19 and 20, 356 fig. 21.  
 Tonalamatl, 310, 311, 315, 325; factors thirteen and twenty in, 326.  
 Torquemada, Juan de, original source for study of Aztec calendar, 319.  
 Totems, among Salinan Indians, possible significance of, 295.  
 Tro-Cortesian Codex, 323.  
 Troncoso, original source for study of Aztec calendar, 319.  
 Twenty, as factor in Aztec calendar, 322, in the tonalamatl, 326.  
 Uto-Azetaken, 286.  
 Vatican Code A, 320.  
 Venus year in Aztec calendar, 325.  
 Vigesimal numeral system in Aztec calendar, 322, 323.  
 Waikuri language, 290.  
 Wakashan, 288.  
 Walapai, 184.  
 Water (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 357 fig. 22, 358 fig. 23, 359, 360.  
 Water being, in Sarsi texts, 267.  
 Water-monster (Aztec day-sign), typical form, 306; ornamental form, 329, 330 fig. 5, 333 fig. 8; sources of drawings, 334; resemblance to snake, 335.  
 Waterman, T. T., 297; cited, 179, 180, 181, 184.  
 Wind (Aztec day-sign), typical form, 306; ornamental forms, 337, 338 fig. 9; used to represent Wind-god, Quetzal-coatl, 337.  
 Wind-god, Quetzal-coatl, 307; represented by day-sign Wind, 337; realistic drawing of, 338 fig. 9, q; figure of face, 340 fig. 10.  
 Wiyot, 288.  
 Xochitl (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 389 fig. 37, 390.  
 Yana, 281, 286, 287.  
 Yaqui, Hernandez's work on, 280.  
 Year sign, in Aztec calendar, 314. *See* Aztec year.  
 Yokuts, kinship system, 292.  
 Yuma, fricative x of, 180 footnote 10; open vowel compared with Mohave and Diegueño, 184 note 20.  
 Yuman, 283, 284, 290; Diegueño and Mohave as members of, 177; genetic connection with Seri and Tequistlatecan, 279, 280, 287; Mohave representative of, 281.  
 Yurok, 288.  
 "Zapotec Codex," 299.



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Vol. 11, No. 6, pp. 297-398

March 8, 1916

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THE DELINEATION OF THE DAY-SIGNS IN  
THE AZTEC MANUSCRIPTS

BY

T. T. WATERMAN

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